

**Alaska Department of Environmental Conservation
Air Permits Program**

**Public Comment - June 3, 2021
University of Alaska Fairbanks
University of Alaska Fairbanks Campus**

**STATEMENT OF BASIS
of the terms and conditions for
Permit No. AQ0316TVP03**

Prepared by Grace Germain

INTRODUCTION

This document sets forth the Statement of Basis (SOB) for the terms and conditions of Operating Permit No. AQ0316TVP03.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0316TVP03 contains information on the stationary source as provided in the Title V permit application.

The University of Alaska Fairbanks Campus is owned and operated by, University of Alaska Fairbanks and University of Alaska Fairbanks is the Permittee for the stationary source's operating permit. The SIC code for this stationary source is 8221 Colleges, Universities and Professional Schools.

The University of Alaska Fairbanks Campus is a major stationary source located within the Fairbanks North Star Borough (FNSB) area, which has been reclassified by the US Environmental Protection Agency (EPA) as a Serious Nonattainment area effective June 9, 2017, with regard to nonattainment of the 2006 24-hour PM_{2.5} National Ambient Air Quality Standards (NAAQS).

EMISSIONS UNIT INVENTORY AND DESCRIPTION

Under 18 AAC 50.326(a), the Department requires operating permit applications to include identification of all emissions-related information, as described under 40 C.F.R. 71.5(c)(3).

The emissions units at the University of Alaska Fairbanks Campus that are classified significant and have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit No. AQ0316TVP03. The table is provided for informational and identification purposes only. Specifically, the emissions unit rating/size provided in the table is not intended to create an enforceable limit.

The University of Alaska Fairbanks Campus (UAF Campus) operates a power plant consisting of two dual (diesel and gas) fuel-fired boilers, and seven diesel-fired power generator engines with ratings ranging from 64 Hp to 13,266-Hp installed in 1987 through 2020. It also operates 11 small diesel-fired boilers and one hot water heater installed in 1985 through 2005, two small diesel-fired furnaces installed in 1991 and 2001, one incinerator installed in 2006, and one grain dryer installed in 1988. Additionally, in 2016 – 2018, UAF installed a circulating fluidized bed (CFB) dual fuel-fired boiler (EU ID 113) and associated limestone, sand, coal, and ash handling systems, replacing the two old 1962 coal-fired boilers (EU IDs 1 and 2). EU IDs 1 and 2 were taken out of service on December 19, 2019 and EU ID 113 became fully operational on February 25, 2020.

Other insignificant emissions units include three propane-fired kilns in the Fine Arts building, a wood-fired kiln, laboratory fume hoods, paint booth exhaust fans, a small propane-fired turbine, a graduation flame, a wood-fired pellet stove, and a 212,120-gallon diesel storage tank.

EMISSIONS

A summary of the potential to emit (PTE)¹ and assessable PTE from the University of Alaska Fairbanks Campus is shown in Table D. The table presents the updated PTE and assessable emissions for the stationary source based on the existing limits and the limits that will take effect on June 9, 2021 and after October 1, 2023, in accordance with Conditions 43 and 44.

Table D – Emissions Summary, in Tons Per Year (TPY)

Emissions	NO _x	CO	PM ₁₀	SO ₂	VOC	CO _{2e} ¹	HAPs ²	Total ³
Existing								
PTE	484	403	40.1	560	23.3	451,870	19.9	1,510
Assessable PTE	484	403	40.1	560	23.3	--	--	1,510
June 9, 2021								
PTE	484	403	40.1	558	23.3	451,870	19.9	1,508
Assessable PTE	484	403	40.1	558	23.3	--	--	1,508
October 1, 2023								
PTE	484	403	40.1	519	23.3	451,870	19.9	1,469
Assessable PTE	484	403	40.1	519	23.3	--	--	1,469

Notes:

- CO_{2e} emissions are defined as the sum of the mass emissions of each individual GHG adjusted for its global warming potential.
- HAP emissions are a subset of either VOC or PM₁₀ or PM_{2.5} emissions and are excluded from the assessable emissions to avoid double counting. No individual HAP is emitted at or above 10 TPY. The maximum PTE of an individual HAP, Hydrogen Fluoride (HF), is 8.01 TPY.
- Total PTE and total assessable PTE shown in the table do not include CO_{2e} and HAPs.

The assessable PTE listed under Condition 118.1 is the sum of the emissions of the PTE of each individual air pollutant, other than greenhouse gases (GHGs), for which the stationary source has PTE of 10 TPY or greater. The emissions listed in Table D are estimates that are for informational use only. The listing of the emissions does not create an enforceable limit for the stationary source.

The estimated potential emissions are based on calculations provided in the application amendments dated December 5, 2014, August 13, 2020, and January 5, 2021. The applicant calculated the PTEs by applying emission factors obtained from manufacturer data, source test results, or AP-42 emission factors, unit design specifications, and any allowed emission rates and/or operational limits applicable to emissions units at the stationary source current as of the date of the permit renewal application submittal. The Department made some adjustments to account for the removal from service of EU IDs 1, 2, 23, and 31 and addition of EU IDs 34 and 35, as well as, corrections on some emission factors.

¹ *Potential to Emit* or *PTE* means the maximum capacity of a stationary source to emit a pollutant under its physical or operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source, as defined in AS 46.14.990(23), effective 12/3/05.

BASIS FOR REQUIRING AN OPERATING PERMIT

In accordance with AS 46.14.130(b), an owner or operator of a Title V source² must obtain a Title V permit consistent with 40 C.F.R. Part 71, as adopted by reference in 18 AAC 50.040.

Except for sources exempted or deferred by AS 46.14.120(c) or (f), AS 46.14.130(b) lists the following categories of sources that require an operating permit:

- A major source;
- A stationary source including an area source subject to Federal New Source Performance Standards (NSPS) under Section 111 of the Clean Air Act or National Emission Standards for Hazardous Air Pollutants (NESHAP) under Section 112 of the Clean Air Act;
- Another stationary source designated by the Federal Administrator by regulation.

The Permittee is required to obtain an operating permit for the University of Alaska Fairbanks Campus as specified under 18 AAC 50.326(a) and 40 C.F.R. 71.3(a), because the stationary source is

- a major source; this stationary source is a major source because as defined in Section 302 of the Clean Air Act, it directly emits, or has the potential to emit, 100 TPY or more of any air pollutant subject to regulation; and
- a source, including an area source, subject to a standard, limitation or other requirement under Section 111 of the Act (NSPS) not exempted or deferred under AS 46.14.120(c) or (f).

AIR QUALITY PERMITS

Previous Air Quality Permit to Operate

The UAF Campus operated under permit-to-operate number 9631-AA001. This permit-to-operate included all construction authorizations issued through October 1996 since it was issued before January 18, 1997 (the effective date of the new divided Title I/Title V permitting program). All stationary source-specific requirements established in this permit have been revised and/or rescinded through subsequent Title I permits, as described in Table E.

Title I (Construction and Minor) Permits

Construction Permit No. AQ0316CPT01. The Department issued Construction Permit No. AQ0316CPT01 to this stationary source on April 2, 2014. The Department rescinded this permit on August 26, 2015 with the issuance of Minor Permit No. AQ0316MSS06 due to the revision on the applicability of PSD review for GHGs.

Minor Permit AQ0316MSS01. The Department received an application for Minor Permit AQ0316MSS01 on October 4, 2005. However, this application was subsequently withdrawn by UAF.

² *Title V source* means a stationary source classified as needing a permit under AS 14.130(b) [ref. 18 AAC 50.990(111)].

Minor Permit No. AQ0316MSS02. The Department issued Minor Permit AQ0316MSS02 on August 23, 2006 to retrofit two existing oil-fired boilers (EU IDs 3 and 4) to operate on both liquid and gaseous fuels. This minor permit has been rescinded by Minor Permit No. AQ0316MSS05.

Minor Permit No. AQ0316MSS03. The Department issued Minor Permit No. AQ0316MSS03 on January 16, 2013 to authorize the installation of EU ID 27 and to establish an owner requested limit (ORL) for EU ID 27.

All stationary source-specific requirements established in this permit are included in Operating Permit No. AQ0316TVP03 as described in Table F.

Minor Permit No. AQ0316MSS04. The Department issued Minor Permit No. AQ0316MSS04 on February 15, 2013 to authorize the installation of EU IDs 9A and 19 – 21, to establish ORLs for HAPs major avoidance for EU ID 9A, and to avoid triggering a minor permit under 18 AAC 50.502(c)(3) for SO₂ and NO_x for EU IDs 19 – 21. This minor permit was revised by Minor Permit AQ0316MSS07.

All stationary source-specific requirements established in this permit are included in Operating Permit No. AQ0316TVP03 as described in Table G.

Minor Permit No. AQ0316MSS05. The Department issued Minor Permit No. AQ0316MSS05 on August 4, 2016 to rescind Minor Permit No. AQ0316MSS02, to revise the PSD avoidance requirements for EU IDs 4 and 8, and to remove the option to combust coal water slurry as fuel for EU IDs 3, 4, and 8. This permit also rescinded the limit for the combined annual capacity factor of EU ID 4 to less than 10 percent by not exceeding the heat input of 158,468 MMBtu/year and associated MR&R requirements.

All stationary source-specific requirements established in this permit are included in Operating Permit No. AQ0316TVP03 as described in Table H.

Minor Permit No. AQ0316MSS06. The Department issued Minor Permit No. AQ0316MSS06 on August 26, 2015 to revise Construction Permit No. AQ0316CPT01 by removing the PSD requirements for GHGs. This permit authorized installation and operation of two new coal-fired circulating fluidized bed (CFB) boilers (EU IDs 101 and 102), along with associated handling equipment and cooling tower (EU IDs 103 through 112), to replace the two old stoker-fed coal-fired boilers, EU IDs 1 and 2. The permit established ORLs to avoid PSD Review under 18 AAC 50.306, Nonattainment New Source Review (NA NSR) under 18 AAC 50.311, and HAPs Major Source Classification under 18 AAC 50.316.

- Revision No.1. Minor Permit No. AQ0316MSS06 was reopened under AS 46.14.280(a)(2)(B) due to a material change in the quantity of air pollutants emitted from the stationary source. UAF decided to construct one new CFB boiler (EU ID 113) instead of two CFB boilers (EU IDs 101 and 102). This revised permit authorized the installation of EU IDs 105, 107, 109 through 111, and 113 through 136. Revision 1 to Minor Permit No. AQ0316MSS06 was issued on October 21, 2016.
- Revision No.2. Minor Permit No. AQ0316MSS06, Revision 2 was issued on April 14, 2017 to revise material mistakes in Minor Permit No. AQ0316MSS06, Revision 1.

All stationary source-specific requirements established in this permit are included in Operating Permit No. AQ0316TVP03 as described in Table I.

Minor Permit No. AQ0316MSS07. The Department issued Minor Permit No. AQ0316MSS07 to the stationary source on DATE, to address UAF's proposal to establish ORLs for the three diesel fuel-fired boilers, EU IDs 17, 18, and 22. It also revised Minor Permit No. AQ0316MSS04 for the stationary source to continue to avoid minor permit classification for NO_x. The ORLs and revisions processed under this minor permit are carried over into the renewal Title V Operating Permit No. AQ0316TVP03, using the integrated review procedures described in 18 AAC 50.326(c)(1).

All stationary source-specific requirements established in this permit are included in Operating Permit No. AQ0316TVP03 as described in Table J.

Minor Permit No. AQ0316MSS08. On August 14, 2020, the Permittee submitted a minor permit application to request establishment of BACT limits applicable to the University of Alaska Fairbanks Campus, as required by the Fairbanks PM_{2.5} Serious State Implementation Plan (Serious SIP). The Department issued Minor Permit No. AQ0316MSS08 to this stationary source on May 5, 2021.

All stationary source-specific requirements established in this permit are included in Operating Permit No. AQ0316TVP03 as described in Table K.

Minor Permit No. AQ0316MSS09. On March 29, 2021, the Department received a minor permit application requesting revision to Condition 10.2 of Minor Permit AQ0316MSS06 Revision 2 by specifying the use of the *Broken Bag Detection Procedure* (see Appendix A) as an alternative detection procedure to comply with the bag leak detection system requirements, instead of the recommended procedures in Section 4.2 and 5.4 of EPA's *Fabric Filter Bag Leak Detection Guidance* required under NESHAP Subpart JJJJJ. The revisions processed under this minor permit are carried over into the renewal Title V Operating Permit No. AQ0316TVP03, using the integrated review procedures described in 18 AAC 50.326(c)(1). The Department issued Minor Permit No. AQ0316MSS09 to this stationary source on DATE.

All stationary source-specific requirements established in this permit are included in Operating Permit No. AQ0316TVP03 as described in Table L.

Title V Operating Permit Application, Revisions and Renewal History

Permit No. AQ0316TVP01. The Permittee submitted an application for an initial Title V operating permit on December 8, 1997. The application was amended on April 16, 1998. The Department issued Operating Permit No. AQ0316TVP01 on August 9, 2000.

- Revision No. 1. The Permittee requested an administrative permit amendment on October 9, 2000. Operating Permit No. AQ0316TVP01, Revision 1 was issued on November 13, 2000.
- Revision No. 2: The Permittee requested an administrative permit amendment on October 5, 2001. Operating Permit No. AQ0316TVP01, Revision 2 was issued on February 28, 2002.
- Revision No. 3: The Permittee requested a significant permit modification on December 19, 2002. Operating Permit No. AQ0316TVP01, Revision 3 was issued April 18, 2003.

Permit No. AQ0316TVP02. The Permittee submitted an application to renew Operating Permit No. AQ0316TVP01 on February 7, 2005. The Department issued Operating Permit No. AQ0316TVP02 on December 4, 2007.

- Revision No. 1. The Permittee requested a significant permit modification on March 29, 2011. Operating Permit No. AQ0316TVP02, Revision 1 was issued on June 22, 2012.

Permit No. AQ0316TVP03. The Permittee submitted an application to renew Operating Permit No. AQ0316TVP02 on June 27, 2012. The Department received a complete application on August 27, 2012. The application was amended on August 19, 2013, December 5, 2014, August 14, 2020, and January 5, 2021.

COMPLIANCE HISTORY

The stationary source has operated at its current location since 1964. Review of the permit files for this stationary source, which includes the past inspection reports indicate the stationary source had been issued notices of violation and Compliance Orders by Consent (COBCs). Some of these violations have been resolved through permitting actions, upgrades in the equipment operated and control systems, and other corrective actions to address procedural violations. The stationary source is now generally operating in compliance with its operating and minor permits.

In 2004, a Compliance Order by Consent (COBC No. 2003-491-50-3248) was issued to the UAF, Fairbanks Campus Power Plant due to excess emissions of NO_x. This compliance issue has been resolved with the installation of a second aqueous ammonia tank. On September 17, 2004, the Department issued a letter closing the COBC.

On April 6, 2012, UAF disclosed to the Department the existence of 11 unpermitted EUs (EU IDs 10, 11, 17 through 23, 31, and 32) that were installed and have been in operation at the University of Alaska Fairbanks Campus during the period 2000 through 2005. This resulted in the issuance of Notice of Violation (NOV) Enforcement Tracking No. 12-1146-40-0001 issued September 13, 2012, and the associated Compliance Order by Consent (COBC) No. AN2012104126 issued September 3, 2015, for installing and operating EUs without first obtaining applicable construction permit, as required under AS 46.14.130(a) and (c). UAF has submitted applications for Minor Permits AQ0316MSS04 and AQ0316MSS07 to address the air quality permitting requirements covered by the NOV and COBC. The Department issued Minor Permits AQ0316MSS04 and AQ0316MSS07 on February 15, 2013 and DATE, respectively.

On September 28, 2012, the Department issued Notice of Violation (NOV) No. 12-1016-40-0001 (AT Case No. 1994) to address violations of Conditions 1, 27, 75.1(c)(i), and 27.2 of Permit No. AQ0316TVP02. On August 25, 2015, the Department and UAF entered into COBC No. 12-1016-50-0002. The COBC was amended on April 1, 2016. Currently, there is only one remaining action that need to be completed by the UAF to consider the COBC closed. This action requires UAF to either decommission EU ID 8, or permanently re-route the EU's stack to by-pass the Heat Recovery Steam Generator (HRSG) in order to correct the excess opacity issue from EU ID 8.

The most recent Full Compliance Evaluation (FCE) report dated September 29, 2020 was conducted with a site visit on September 3, 2020, covering the period December 21, 2018 through September 25, 2020. This FCE report indicates that the stationary source was out of compliance with Condition 1.a (excess visible emissions for EU ID 4 due to an upset condition)

of Permit No. AQ0316TVP02 Rev 1; and Conditions 10.2, 41.3a(ii) and 50.6b (bag leak detection system installed on the baghouse controlling PM emissions from EU 113 may not meet all applicable requirements in the EPA guidance document), and Conditions 30.5b and 34.5 (CEMS for EU 113 was not audited in 1Q 2020 due to COVID pandemic travel restrictions) of Permit No. AQ0316MSS06 Rev 2. Corrective actions were recommended by the Department and compliance issues have been resolved as of November 12, 2020. UAF has submitted an application for Minor Permit AQ0316MSS09 in March 2021 addressing compliance issues regarding the bag leak detection system as part of the corrective actions.

APPLICABLE REQUIREMENTS FROM PRE-CONSTRUCTION PERMITS

Incorporated by reference at 18 AAC 50.326(j), 40 C.F.R. Part 71.6 defines “applicable requirement” to include the terms and conditions of any pre-construction permit issued under rules approved in Alaska’s State Implementation Plan (SIP).

Alaska’s SIP included the following types of pre-construction permits:

- Permit-to-operate issued before January 18, 1997 (these permits cover both construction and operations);
- Construction Permits issued after January 17, 1997; and
- Minor permits issued after October 1, 2004.

Pre-construction permit terms and conditions include both source-specific conditions and conditions derived from regulatory applicable requirements such as standard conditions, generally applicable conditions and conditions that quote or paraphrase requirements in regulation.

These requirements include, but not limited to, each emissions unit- or source-specific requirement established in these permits issued under 18 AAC 50 that are still in effect at the time of this operating permit issuance. Table E through Table I below lists the requirements carried over from Permit to Operate No. 9631-AA001, Minor Permit No. AQ0316MSS03, Minor Permit No. AQ0316MSS04, Minor Permit No. AQ0316MSS05 and Minor Permit No. AQ0316MSS06, Revision 2 into Operating Permit No. AQ0316TVP03 to ensure compliance with the applicable requirements.

Table E – Comparison of Previous Permit-to-Operate No. 9631-AA001 Conditions to Operating Permit No. AQ0316TVP03 Conditions³

Permit No. 9631-AA001 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
5	Operate each boiler or the diesel engine at a rate no greater than that for which source testing has demonstrated compliance with the emission standards	None	Reinstated and revised in AQ0316MSS02 Condition 15; AQ0316MSS02 was rescinded by AQ0316MSS05.
6	Fire EU IDs 1 and 2 with coal alone, or coal blended with used	None	Not carried forward; additional restrictions in Conditions 6.a through

³ This table does not include all standard and general conditions.

	oil in, with the following additional restrictions....		6.d are no longer in effect, as described below.
6.a	Limit of fuel consumption to limit SO ₂ emissions from EU ID 3.	None	EU ID 3 was pre-PSD so limit was removed (see initial TV Permit No. AQ0316TVP01).
6.b	Limit annual capacity factor of 10% and 795,000 gallons of fuel per year for EU ID 4.	None	Fuel gallons limit revised to 158,468 MMBtu/hr equivalent (10% of annual heat input capacity of EU ID 4) in AQ0316MSS02. AQ0316MSS02 was rescinded by AQ0316MSS05. This limit is not carried over to MSS05.
6.c	Limit of CO emissions from EU IDs 1 and 2.	None	No authority for such limit in new regulations (as determined in initial TV Permit No. AQ0316TVP01).
6.d	Maximum used fuel to coal ratio for EU IDs 1 and 2.	None	No authority for such limit in new regulations (as determined in initial TV Permit No. AQ0316TVP01).
7	Limit operations of the Diesel engine to comply with the units' SO ₂ and NO _x emissions limits, as shown in Exhibit B.	None	Emissions trading replaced by PSD avoidance allowances in Condition 11 of AQ0316TVP01; this was later rescinded and replaced by Condition 9 of AQ0316MSS02. AQ0316MSS02 was rescinded by AQ0316MSS05.
9a	Perform PM emission tests on either Boiler #3 or Boiler #4, within 60 days after the initial firing or co-firing with coal water slurry.	None	Reinstated and revised in AQ0316MSS02 Condition 13; AQ0316MSS02 was rescinded by AQ0316MSS05.
9b	Perform PM and NO _x emission tests on the Diesel Engine (Source #5) within 90 days after the initial startup.	None	Reinstated and revised in AQ0316MSS02 Conditions 13 and 14; AQ0316MSS02 was rescinded by AQ0316MSS05.
11	Install, calibrate, certify, operate and maintain a replaced opacity meter on the baghouse stack consistent with the Performance Specification 1 set out in 40 C.F.R. Part 60, Appendix B.	None	Not carried over. EU IDs 1 and 2 have been removed from service.
12	Test the opacity monitor for conformance with manufacturer's specifications and results submitted with the operating reports.	None	Not carried over. EU IDs 1 and 2 have been removed from service.
13	Continuously monitor the pressure drop across, and flue gas opacity from the baghouse and record representative values for each baghouse each quarter of operation of EU IDs 1 and 2.	None	Not carried over. EU IDs 1 and 2 have been removed from service.

Table F – Comparison of Minor Permit No. AQ0316MSS03 Conditions to Operating Permit No. AQ0316TVP03 Conditions⁴

Permit No. AQ0316MSS03 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
Table 1	Emissions Unit Inventory	Table A	Included EU ID 27 as described in AQ0316MSS03.
4	ORL not to exceed 10 TPY NO _x and equivalent operational hour limit for EU ID 27 and MR&R requirements.	28	Same limits and MR&R requirements. Reworded and reformatted condition for clarification.

Table G – Comparison of Minor Permit No. AQ0316MSS04 Conditions to Operating Permit No. AQ0316TVP03 Conditions⁵

Permit No. AQ0316MSS04 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
Table 1	Emissions Unit Inventory	Table A	Included EU IDs 9A, 19, 20, and 21 as described in AQ0316MSS04.
5, 6, 7	State visible emissions, PM, and sulfur compound emissions standards for EU IDs 19 – 21	1 – 12; 14 – 15.1.d	Incorporated associated MR&R requirements for EU IDs 9A, 19, 20, and 21 for compliance with the applicable state standards for visible emissions, PM, and sulfur compound emissions.
8	Limit the amount of wastes incinerated in EU ID 9A to 109 tons per rolling 12-month period to avoid classification of the stationary source as HAPs major for HCl.	29	Same limit and requirements; reformatted numbering order for consistency throughout the document. Added “monthly” and “during the reporting period” in Condition 29.1.c for clarity.
9	Burn only ULSD fuel in EU IDs 19-21 to limit SO ₂ emissions.	30	Same limits and requirements; reformatted numbering order for consistency throughout the document.
10	Limit combined operational hours of EU IDs 19-21 to 19,650 hours per rolling 12-month period to avoid minor permit classification under 18 AAC 50.502(c)(3)(A) for NO _x emissions.	41	Rescinded and replaced by AQ0316MSS07. Added EU ID 22 and changed combined operational hour limit to 18,739. See Table J.

⁴ This table does not include all standard and general conditions.

⁵ This table does not include all standard and general conditions.

Table H – Comparison of Minor Permit No. AQ0316MSS05 Conditions to Operating Permit No. AQ0316TVP03 Conditions⁶

Permit No. AQ0316MSS05 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
Table 1	Emissions Unit Inventory	Table A	Included EU IDs 3, 4, and 8 as described in AQ0316MSS05.
2	Limit SO ₂ emissions from EU IDs 4 and 8.	31	Same limit and requirements; reformatted numbering order for consistency throughout the document. Corrected a typographical error by deleting the word “ending” before “during the reporting period” in Condition 31.1.c.
3	Limit NO _x emissions from EU IDs 4 and 8.	32	No changes

Table I – Comparison of Minor Permit No. AQ0316MSS06 Conditions to Operating Permit No. AQ0316TVP03 Conditions⁷

Permit No. AQ0316MSS06 Rev 2 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
Table 1	Emissions Unit Inventory	Table A	Included EU IDs 105, 107, 109, 110, 111, and 113 – 136 as described in AQ0316MSS06.
6, 7, 8	State visible emissions, PM, and sulfur compound emissions standards for EU IDs 105, 107, 109 – 111, and 113 – 136	1, 6, 14 & footnote 7, 18, 21, and 23	Incorporated EU IDs 113 and 115 – 136 in the applicable state standards conditions for visible emissions, PM, and sulfur compound emissions. Added footnote 7 in Condition 14 to explain non-applicability of the state sulfur compound emission standards to EU IDs 105, 107, 109 – 111, and 114 through 136.
6.1 and 6.3 – 6.5; 7.1; and 8.1 – 8.3	State visible emissions, PM, and sulfur compound emissions MR&R for the coal-fired CFB boiler, EU ID 113	19 and 20; 22 and; 24 – 26	Same MR&R requirements carried over for compliance with the applicable state standards for visible emissions, PM, and Sulfur Compound emissions, except as follows: <ul style="list-style-type: none"> Added a cross-reference to the Department's <i>Performance Audits for COMS</i> (see Section 5) in Condition 19.2, similar to SPC XIII.

⁶ This table does not include all standard and general conditions.

⁷ This table does not include all standard and general conditions, and applicable federal requirements.

Permit No. AQ0316MSS06 Rev 2 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
			<ul style="list-style-type: none"> • Added Conditions 19.3, 20.2, and 20.3 to cover instances when the COMS is inoperable. • Added more details to recordkeeping requirements in Condition 20.1, for clarity. • Removed the PM initial source requirement (already completed on October 20-21, 2021) in Condition 22.2; • Removed the clause “that is due more than 30 days after the Permittee receives the final test report,” pertaining to operating report, at the end of Condition 22.4 to avoid confusion; and • Added the word “summary” in Condition 22.4 and “the following information covering the reporting period” in Condition 26.2 for clarity.
6.2	Visible emissions MR&R for EU IDs 115 – 136	1.8	Same requirements; except clarified the operating report requirement by referencing the Subpart Y report in Condition 76.
7.2 – 7.6	PM MR&R for EU IDs 115 – 136	6.8	<p>Included all Subpart Y-affected EU IDs 115 – 136 under one condition to simplify and streamline MR&R requirements by referencing compliance with the more stringent Subpart Y opacity and PM standards and associated MR&R. Removed the clause “that is due more than 30 days after the Permittee receives the final test report,” pertaining to operating report, at the end of the condition to avoid confusion. Operating reports (Condition 142) already specify the period covered by each due date.</p> <p>Added the word “summary” for clarity. Full source test report is submitted in accordance with Section 9. Test reports are due within 60 days after completing a source test per Condition 135.</p> <p>These changes clarify, and do not alter, the underlying intent in AQ0316MSS06 Rev 2.</p>

Permit No. AQ0316MSS06 Rev 2 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
9-10	Conditions to limit PM to avoid NA NSR for EU ID 113.	33 – 35	Carried over as revised by Conditions 4 and 5 of AQ0316MSS09. See Table L.
11, 12, 14, and 16	Comply with the ORLs described in Conditions 33 through 38 by removing EU IDs 1 and 2 from service prior to full operations of EU ID 113. Report in the next operating report the dates EU IDs 1 and 2 were removed from service; the date which solid fuel was first loaded into EU ID 113 for any purpose; and the date EU ID 113 became fully operational.	None	Not carried over; removal of EU IDs 1 and 2 and reporting requirements already fulfilled. Per 1 st Half 2020 operating report, EU IDs 1 and 2 were taken out of service on December 19, 2019; solid fuel was first loaded into EU ID 113 on December 19, 2018; and EU ID 113 became fully operational on February 25, 2020.
13	Conditions to limit SO ₂ to avoid PM _{2.5} NA NSR and PSD permitting for EU ID 113.	36	No changes
15	Limit CO from EU ID 113 to avoid PSD permitting	37	No changes
17	Limits on HF and HCl from EU ID 113 to avoid HAPs major source classification	38	Same limits and MR&R requirements. Merged the same requirements pertaining to dry sorbent injection system and limestone injection system to simplify and avoid redundancy.
18	Monitoring for applicability of biomass boiler classification for EU ID 113.	39	Same requirements. Added the first sentence in Condition 39 to indicate threshold for NESHAP Subpart JJJJJ biomass category and establish the need for monitoring biomass heat input. Changes in the sub conditions are described below. These changes clarify, and do not alter, the underlying intent in AQ0316MSS06 Rev 2.
18.1 and 18.2	If a certified statement or receipt is not available from the supplier, analyze a representative sample in accordance with ASTM Method, or an alternative method approved by the Department.	39.1 and 39.2	Changed “alternative method approved by the Department” to “alternative method listed in 18 AAC 50.035(b)-(c) or 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).” The text “...or an alternative method approved by the Department” was discarded during the Revised Action Plan submitted to EPA

Permit No. AQ0316MSS06 Rev 2 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
			on July 15, 2007, as a result of the EPA Audit of the September 2006 Title V Program Review. This text is not to be used in subsequent permits since it allows a Permittee to bypass the public process for changing monitoring requirements by submitting off-record requests to change monitoring methods.
18.3 and 18.4	Recordkeeping requirements	39.3	Merged the same recordkeeping requirements pertaining to coal and biomass in Condition 39.3 to simplify and avoid redundancy.
18.5	Calculate and record the monthly heat input for coal and biomass using Equation 1.	39.4 and 39.5	Reorganized and reworded the conditions for clarity. Added the words “and biomass” in Condition 39.4 for accuracy and clarity. Added recordkeeping requirements in Condition 39.5 for better organization and readability.
None	Calculation method for biomass heat input rolling 12-month percentages.	39.6	Added Condition 39.6 to provide detailed calculation process for the rolling 12-month heat input percentages of biomass heat input.
18.6	Notify the Department in writing if EU ID 113 is subject to 40 C.F.R. 63.11210(h)	39.7	<p>Added the words “any of” and “as calculated under Condition 39.6.a” for clarity. Changed “at least 15 percent” to “more than 15 percent” for accuracy; EU ID 113 falls under a “biomass subcategory” and no longer under “coal fired subcategory” if it burns more than 15 percent biomass on an annual heat input basis, per 40 C.F.R. 63.11237 NESHAP Subpart JJJJJ.</p> <p>Added a compliance due date for notification (within 30 days of exceedance, consistent with the notification requirement in §63.11225(g)) for clarity and enforceability.</p> <p>Corrected the referenced citation 63.11210(h) [<i>refers to units burning solid waste</i>] to 63.11210(i) [<i>refers to affected boilers that switch fuels ... that results in the applicability of a different subcategory within subpart JJJJJJ</i>], for accuracy. In 2016, 63.11210 paragraphs (f) through (j)</p>

Permit No. AQ0316MSS06 Rev 2 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
			have been re-designated as paragraphs (g) through (k).
18.7	Report in the operating report the monthly and rolling 12-month percentages of biomass heat input.	39.8	Removed “monthly.” Reporting of monthly percentage is not necessary – the 15% threshold is based on annual heat input.
19 – 52	Federal requirements, NSPS Subpart A (General Requirements), Subpart Db (EU IDs 4 and 113), and Subpart Y (EU IDs 115 – 136); NESHAP Subparts A and JJJJJ (EU ID 113)	51 – 104	Updated conditions with the most recent updates on applicable NSPS and NESHAP requirements.
41.3a(ii), 43.4, 48.1d, 50.6, and 52.3g	Relevant requirements from NESHAP Subpart JJJJJ applicable to affected emissions unit using a fabric filter to control PM emissions	34.3 through 34.6	Carried over as revised by Conditions 5.3 through 5.6 of AQ0316MSS09. See Table L.

Table J – Comparison of Minor Permit No. AQ0316MSS07 Conditions to Operating Permit No. AQ0316TVP03 Conditions⁸

Permit No. AQ0316MSS07 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
Table 1	Emissions Unit Inventory	Table A	Included EU IDs 17 – 22 as described in AQ0316MSS07.
3.1	Assessable emissions based on potential to emit of 1,510 TPY	118.1.a	No change.
5, 6, 7	State visible emissions, PM, and sulfur compound emissions standards for EU IDs 17 – 22	1, 1.3, 3 – 6, 6.3, 10 – 12, 14 – 15.1.d	Incorporated associated MR&R requirements for EU IDs 17 – 22 for compliance with the applicable state standards for visible emissions, PM, and sulfur compound emissions.
8 and 8.1	SO ₂ Limit and MR&R requirements to avoid minor permitting under 18 AAC 50.502(c)(3)(A)(ii)	40	No change.
8.2	MR&R requirements for ULSD compliance.	30.1	Same requirements. Incorporated MR&R by reference to similar requirements under Condition 30.1.

⁸ This table does not include all standard and general conditions, and applicable federal requirements.

Permit No. AQ0316MSS07 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
9	Condition 10 of Minor Permit AQ0316MSS04 is rescinded and replaced.	None	Not carried over, condition not needed in Title V permit.
10	NO _x limit and MR&R requirements for EU IDs 19 – 22 to avoid minor permitting under 18 AAC 50.502(c)(3)(A)(iii)	41	No change.

Table K - Comparison of Minor Permit No. AQ0316MSS08 Conditions to Operating Permit No. AQ0316TVP03 Conditions⁹

Permit No. AQ0316MSS08 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
Table 1	Emissions Unit Inventory	Table A	Included all EUs in Table A, except EU ID 28, which had been permanently removed from service. Corrected installation date for the dual fuel-fired CFB Boiler (EU ID 113) and associated coal and ash handling equipment from 2018 to 2016.
3.1a – 3.1c	Assessable emissions based on potential to emit as of issuance date of A0316MSS08 and beginning June 9, 2021 and October 1, 2023	118.1.a - 118.1.c	Amounts adjusted per ORLs authorized under AQ0316MSS07
5 – 8, 10, and 11	SO ₂ SIP BACT Limits and MR&R requirements for EU IDs 3, 4, 8, 9A, 24, 19 – 21, and 26 – 29	42 – 47	Same requirements, except deleted EU ID 28, which had been permanently removed from service.. In Condition 47.6, corrected cross-referenced condition to Condition 47.4 pertaining to calculated calendar quarter average wt% _{S_{fuel}} content.
9	MR&R requirements for EUs required to burn only ULSD fuel	30.1	Same requirements. Incorporated MR&R by reference to similar requirements under Condition 30.1.
12 – 13	PM _{2.5} SIP BACT Limits and MR&R requirements for EU IDs 9A, 105, 107, 109, 110, 111, 114, and 128 – 130	48 – 50	No change.

⁹ This table does not include all standard and general conditions, and applicable federal requirements.

Permit No. AQ0316MSS08 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
12.3a – 12.3c	MR&R requirements for wastes combusted in EU ID 9A	48.3.a and 29.1.a - 29.1.c	Same requirements. Incorporated MR&R by reference to similar requirements under Condition 29.1.

Table L - Comparison of Minor Permit No. AQ0316MSS09 Conditions to Operating Permit No. AQ0316TVP03 Conditions¹⁰

Permit No. AQ0316MSS09 Condition No.	Description of Requirement	Permit No. AQ0316TVP03 Condition No.	How Condition was Revised
Table 1	Emissions Unit Inventory	Table A	Included all EUs in Table A
2 and 3	Rescind and replace AQ0316MSS06 Revision 2 Conditions 9 & 10 and Conditions 41.3a(ii), 43.4, 48.1d, 50.6, & 52.3g.	None	Not carried over; rescission and replacement authorization are not Title V requirements.
4 and 5	Conditions to limit PM to avoid NA NSR for EU ID 113 and associated compliance demonstration requirements.	33 and 34	Same limit and requirements..
6	Excess emissions and permit deviation reports	35	No change

CAM APPLICABILITY

The Department has determined that EU IDs 8 and 113 are subject to the Compliance Assurance Monitoring (CAM) rule as provided in 40 C.F.R. 64. The Permittee has submitted a CAM plan for EU ID 8, and the elements of the CAM plan have been incorporated into Conditions 105 through 108. A detailed explanation of the Department’s CAM plan applicability follows below:

- The Department found that the diesel engine generator, EU ID 8, meets all three applicability criteria listed under the General Applicability section in 40 C.F.R. 64.2(a):
 - §64.2(a)(1): “The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section.”

Under Condition 32, the Permittee is required to limit the combined NO_x emissions from EU IDs 4 and 8 to less than 40 tons per year. This limit is not exempt under §64.2(b)(1).

¹⁰ This table does not include all standard and general conditions, and applicable federal requirements.

- §64.2(a)(2): *“The unit uses a control device to achieve compliance with any such emission limitation or standard.”*

UAF has a control device (the SCR) to control NO_x emissions. When operating with the SCR, UAF is using a control device to meet its emission limit.

The Permittee has two operating scenarios for EU ID 8. The Permittee may operate EU ID 8 with or without the SCR. The Permittee uses Equation 2 (operation without NO_x controls) and Equation 3 (operation with NO_x controls) to determine NO_x emissions from EU ID 8. When operating the unit with the SCR the Permittee achieves NO_x reduction of by a factor of approximately 10, which means that without NO_x reduction, the unit produces 53 lb per MWH, but with the SCR reducing the NO_x emissions, the emission rate is 5.3 lb per MWH.

- §64.2(a)(3): *“The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, “potential pre-control device emissions” shall have the same meaning as “potential to emit”, as defined in Sec. 64.1, **except that emission reductions achieved by the applicable control device shall not be taken into account.**”*

EU ID 8 has a pre-controlled emission greater than 100 tons per year.

- Exemptions under §64.2(b)(1)(v): *“An emissions cap that meets the requirements specified in §70.4(b)(12) or §71.6(a)(13)(iii) of this chapter.”*

The exemption under §64.2(b)(1)(v) was closely studied at the request of the Permittee. The Department found that 40 C.F.R. 64.2(b)(1)(v) does not apply to EU ID 8. The exemption under §71.6(a)(13)(iii) or §70.4 (b)(12) allows for the trading of emission increases and decreases in the permitted facility solely for the purpose of complying with emission caps that are independent of otherwise applicable requirements. The 40 TPY of NO_x limit constitutes an applicable requirement established in a Title I permit to avoid PSD review. This limit does not correspond to trading of emissions increases and decreases solely for the purpose of complying with a federally-enforceable emissions cap.

2. The Department has also determined that EU ID 113 is subject to the CAM rule as provided in 40 C.F.R. 64, because it meets all three applicability criteria listed under 40 C.F.R. 64.2(a) as explained below. See also SOB for Conditions 105 – 108 and Condition 157.

- §64.2(a)(1): *“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section;”*

Under Condition 33, the Permittee shall limit PM emissions from EU ID 113 to no greater than 15.5 tons per year to avoid PM_{2.5} Nonattainment Area New Source Review. This limit is not exempt under §64.2(b)(1).

- §64.2(a)(2): *“The unit uses a control device to achieve compliance with any such emission limitation or standard”*

For EU ID 113, the Permittee uses a baghouse to meet the PM/PM₁₀/PM_{2.5} emission limit in Conditions 21 and 33.

- §64.2(a)(3): *“The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, “potential pre-control device emissions” shall have the same meaning as “potential to emit”, as defined in Sec. 64.1, except that emission reductions achieved by the applicable control device shall not be taken into account.”*

EU ID 113 has pre-controlled emissions greater than 100 TPY. The vendor provided emission factor used to determine PTE for EU ID 113 for both PM₁₀ and PM_{2.5} includes the proper operation of all emissions control devices. The Department back calculated the unrestricted PTE for EU ID 113 without the use of a baghouse and determined that with an assumed 99.8% control efficiency, the unrestricted PTE for EU ID 113 would be 7,750 TPY for each of PM₁₀ and PM_{2.5}.

NON-APPLICABLE REQUIREMENTS

This section discusses standard conditions that have not been included in the permit and other requirements that are not included for specific reasons.

- **NSPS Subpart OOO (Nonmetallic Mineral Processing Plants).** Coal and ash are not defined as nonmetallic mineral per 40 C.F.R. 60.671. The limestone and sand handling systems are exempt from NSPS Subpart OOO, per 40 C.F.R. 60.670(a)(2), because the limestone and sand used in the operations of the circulating fluidized bed (CFB) boiler (EU ID 113) are not crushed or ground at the stationary source.
- **NSPS Subpart Da and NESHAP Subpart UUUUU (Electric Utility Steam Generating Units, EGUs).** The coal-fired and oil-fired boilers at the stationary source do not meet the definition of “Electric utility steam generating unit” in 40 C.F.R. 60.41Da and 63.10042 because the power plant does not produce electricity for sale nor does it supply more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale.
- **NESHAP Subpart JJJJJ.** The Permittee operates eight small fuel oil-fired boilers (EU IDs 10 – 13, 16, 30, 32, and 33) each with a heat input capacity of less than 1.6 MMBtu/hr. These boilers include three AFES boilers (EU IDs 10 and 11 each rated at 1.08 MMBtu/hr and a greenhouse furnace, EU ID 30 rated at 0.209 MMBtu/hr), three Harper boilers and heater (EU IDs 13 and 14 each rated at 0.64 MMBtu/hr, and EU ID 33 rated at 0.236 MMBtu/hr), one Copper Lane/Honor’s house boiler (EU ID 16, rated at 0.233 MMBtu/hr), and one Skarland cabin furnace (EU ID 32 rated at 0.140 MMBtu/hr). These boilers have been determined not subject to NESHAP Subpart JJJJJ because they meet the definition of “hot water heater” and/or “residential boiler” under 40 C.F.R. 63.11237. According to 40 C.F.R. 63.11195, hot water heaters or residential boilers are exempt from the requirements of this subpart.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The Department adopted regulations from 40 C.F.R. 71, as specified in 18 AAC 50.040(j), to establish operating permit regulations. The EPA fully approved the Alaska Operating Permit Program on November 30, 2001, as noted in Appendix A to 40 C.F.R. 70. This Statement of Basis (SOB), required under 40 C.F.R. 71.11(b), provides the legal and factual basis for each condition of Operating Permit No. AQ0316TVP03. Additionally, and as required by 40 C.F.R. 71.6(a)(1)(i), the state and federal regulations for each permit condition are cited in the permit.

Conditions 1 through 5, and 13, Visible Emissions Standard and MR&R

Legal Basis: These conditions ensure compliance with the applicable requirements in 18 AAC 50.050(a) and 18 AAC 50.055(a).

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 3, 4, 8, 17 – 22, 24 – 27, 29, 34, 35, 105, 107 – 111, and 114 – 136 are fuel-burning equipment or part of industrial processes.
- 18 AAC 50.050(a) applies to the operation of incinerators. EU ID 9A is an incinerator.

U.S. EPA approved the addition of these standards to the SIP, as noted in 40 C.F.R. 52.70. The Department included permit conditions for MR&R as required by 40 C.F.R. 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 1 prohibits the Permittee from causing or allowing visible emissions in excess of the applicable standard in 18 AAC 50.055(a)(1) for fuel-burning equipment and industrial processes. Condition 2 prohibits the Permittee from causing or allowing visible emissions in excess of the applicable standard in 18 AAC 50.050 for incinerators. MR&R requirements are listed in Conditions 3 through 5 (for liquid fuel-burning equipment and incinerator) and Condition 13 (for dual fuel-burning equipment) of the permit. These conditions have been adopted into regulation as Standard Permit Condition (SPC) IX – Visible Emissions and Particulate Matter Monitoring Plan for Liquid Fuel-Burning Equipment and Flares. The Department has modified these conditions, as follows:

- Added reference to Condition 1.2 in Conditions 1.1 and 13.3 for EU IDs 3 and 4 to address MR&R when the EUs operate on a back-up liquid fuel and using COMS.
- Added Condition 1.2 as emissions unit-specific MR&R for EU IDs 3, 4, and 8 to address MR&R when the EUs operate using COMS. These requirements are consistent with SPC XIII monitoring requirements for a coal fired-boiler using a COMS that was new, relocated, replaced, or substantially refurbished before April 9, 2001.
- Added Condition 1.5 as emissions unit-specific MR&R for the various material handling equipment, EU IDs 105, 107, 109, 110, and 114, referencing compliance with the requirements of Conditions 49.3 through 49.5 that include a one-time initial Method 9 observation required in and carried over from Minor Permit AQ0316MSS08.
- Added Condition 1.6 as emissions unit-specific MR&R for the Ash Loadout to Truck operations, EU IDs 111, referencing compliance with the requirements of Conditions 50.1 through 50.3 that include operations of EU ID 111 done with enclosure, as required in and carried over from Minor Permit AQ0316MSS08.

- Added Condition 1.8 as emissions unit-specific MR&R for the coal handling system, EU IDs 115 through 136, carried over from Minor Permit AQ0316MSS06 Revision 2, referencing compliance with the applicable NSPS Subpart Y opacity standard and associated MR&R requirements.

Beyond as noted above, the Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emissions unit or stationary source operational or compliance factors indicate the unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions, as modified, meet the requirements of 40 C.F.R. 71.6(a)(3).

Except for gas fuel-burning equipment, the Permittee must establish by visual observations of emissions unit exhaust which may be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program that the stationary source is in continuous compliance with the state's emission standards for visible emissions.

These conditions detail a stepwise monitoring to determine compliance with the state's visible emissions standards for liquid fuel-burning emissions units. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from emissions units either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Gas-Fired Fuel Burning Equipment:

Monitoring – The monitoring of gas-fired emissions units for visible emissions is waived; i.e., no Method 9 or Smoke/No Smoke observations will be required for EU IDs 3 and 4 when burning fuel gas. The department has found that natural gas-fired equipment inherently has negligible visible emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must state in each operating report whether only gaseous fuels were used in the equipment during the period covered by the report.

Liquid Fuel-Fired Burning Equipment and Incinerator:

Monitoring – The emissions units must be observed by either the Method 9 or the Smoke/No Smoke Plans as detailed in Condition 3. Corrective actions such as maintenance procedures or more frequent observations may be required depending on the results of the observations.

Recordkeeping - The Permittee is required to record the results of all observations of emissions unit exhaust and record any actions taken to reduce visible emissions.

Reporting - The Permittee is required to report emissions in excess of the state visible emissions standard and deviations from permit conditions. The Permittee is also required to include in the operating report a statement of which visible emissions plan was used for each emissions unit and copies of the results of all visible emission observations.

Dual Fuel-Burning Equipment:

As long as dual fuel-burning emissions units, EU IDs 3 and 4, operate only on gas, monitoring consists of a statement in each operating report indicating only gaseous fuels were used in the equipment during the reporting period. When any of these emissions units operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in Conditions 13.2 and 13.3 is required for that emissions unit in accordance with Department Policy and Procedure No. 04.02.103, Topic # 2. When any of EU IDs 3 and 4 operates on a backup liquid fuel for 400 hours or less in a calendar year, monitoring for that emissions unit consists of an annual certification of compliance with the visible emissions standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Emissions Units Equipped with COMS:

EU IDs 3, 4, and 8 are equipped with COMS. Per the Permittee's request, the Department has added Condition 1.2 to provide the option to monitor visible emissions using COMS. While using COMS, the Permittee is not required to conduct the tiered monitoring scheme using the Method 9 Plan or the Smoke/No Smoke Plan, but is required to follow the procedures for operation of a COMS, monitor, record, and report as described in Conditions 1.2.a through 1.2.d. If the opacity readings using the COMS results into visible emissions greater than the visible emission standard, then the Permittee is required to submit excess emissions and permit deviation report. In the event that the COMS is out of service or fails the performance audit, the Permittee is required to follow the standard MR&R conditions for dual fuel-fired units (Condition 13) for EU IDs 3 and 4 and for liquid fuel-fired engines (Conditions 3 through 5) for EU ID 8.

Significant Emissions Units under 18 AAC 50.326(d)(1):

EU IDs 24, 29, 34, 35, 105, 107, 109 – 111, and 114 – 136 have actual emissions less than the significant emissions thresholds listed in 18 AAC 50.326(e). However, they do not qualify as insignificant per 18 AAC 50.326(d)(1)(A) because they are subject to standards established under NSPS and/or NESHAP rules and/or emissions unit-specific requirements under a Title I permit. EU ID 24 is an emergency diesel engine subject to NESHAP Subpart ZZZZ; EU IDs 29, 34, and 35 are emergency diesel engines subject to NSPS Subpart IIII; EU IDs 105, 107, 109 – 111, 114, and 128 – 130 are subject to the SIP BACT limits under Minor Permit AQ0316MSS08; and EU IDs 115 – 136 are subject to NSPS Subpart Y. Therefore, the Department has waived visible emissions monitoring for these EUs but they are subject to compliance certification requirements, in accordance with Department Policy and Procedure No. 04.02.103, Topic #3.

Conditions 6 through 13, Particulate Matter (PM) Standard

Legal Basis: These conditions ensure compliance with the applicable requirement in 18 AAC 50.055(b). These requirements apply to operation of all industrial processes and fuel burning equipment in Alaska.

- 18 AAC 50.055(b)(1) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 3, 4, 8, 17 – 22, 24 – 27, 29, 34, 35, 105, 107, 109 – 111, and 114 – 136 are fuel-burning equipment or part of industrial processes.

- 18 AAC 50.050(b) sets the standard for particulate matter emissions for incinerators with rated capacity greater than or equal to 1,000. EU ID 9A is an incinerator with a rated capacity of 83 lb/hr; therefore, the state particulate matter emissions standard under 18 AAC 50.050(b) does not apply.

This PM standard apply because it is contained in the federally-approved SIP. The Department included permit conditions for MR&R as required by 40 C.F.R. 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 6 prohibits emissions in excess of the state PM standard applicable to fuel-burning equipment and industrial processes. MR&R requirements are listed in Conditions 6 through 13 of the permit. These conditions have been adopted into regulation as SPC IX. The Department has modified these conditions, as follows:

- Added Condition 6.5 as emissions unit-specific MR&R for the various material handling equipment, EU IDs 105, 107, 109, 110, and 114, referencing compliance with the requirements of Conditions 49.3 through 49.5 that include a one-time initial Method 9 observation required in and carried over from Minor Permit AQ0316MSS08, which may trigger a PM source testing.
- Added Condition 6.6 as emissions unit-specific MR&R for the Ash Loadout to Truck operations, EU IDs 111, referencing compliance with the requirements of Conditions 50.1 through 50.3 that include operations of EU ID 111 done with enclosure, as required in and carried over from Minor Permit AQ0316MSS08.
- Added emissions unit-specific MR&R for the coal handling system, EU IDs 115 through 136, in Conditions 6.8, carried over from Minor Permit AQ0316MSS06 Revision 2, by referencing compliance with the applicable NSPS Subpart Y opacity and PM standards and associated MR&R requirements.
- Added reference to Condition 1.2 in Conditions 7.2 for EU ID 8 and Condition 13.3 for EU IDs 3 and 4 to address MR&R when the EUs operate on liquid fuel and using COMS.
- Changed “of startup” to “after the effective date of this permit” in Condition 8.1 since EU IDs 24, 26, 27, 29, 34, and 35 have already started up and been in operation, but was not included in the previous TV permits.

Beyond as noted above, the Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emissions unit or stationary source operational or compliance factors indicate the unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions, as modified, meet the requirements of 40 C.F.R. 71.6(a)(3).

Except for gas fuel-burning equipment, the Permittee must establish by visual observations, which may be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program, that the stationary source is in continuous compliance with the state's emission standards for PM.

Gas-Fired Fuel Burning Equipment:

Monitoring – The monitoring of gas fuel-burning emissions units for PM is waived; i.e., no source testing will be required. The Department has found that natural gas fuel-burning

equipment inherently has negligible PM emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must state in each operating report whether only gaseous fuels were used in the equipment during the period covered by the report.

Liquid Fuel-Burning Equipment:

Monitoring – The Permittee is required to either take corrective action or conduct PM source testing, if opacity threshold values are exceeded. For liquid fuel-burning engines and turbines, the Department set opacity threshold values of 15 percent for stack diameters less than 18 inches and 20 percent for stack diameters equal to or greater than 18 inches. These opacity thresholds are based on a study conducted by the Department in an effort to establish a correlation between opacity and PM. The data was collected from diesel engines of various stack sizes and the results are as follows:

- For stacks normalized to 21 inches – 0.05 gr/dscf corresponds to 27% opacity
- For stacks normalized to 18 inches – 0.05 gr/dscf corresponds to 23% opacity
- For stacks normalized to 12 inches – 0.05 corresponds to 16.8 % opacity
- For stacks normalized to 10 inches – 0.05 corresponds to 14.3 %

This means that the trend line for the complete data set predicts that 20% opacity corresponds to a little less than the PM limit for an 18-inch stack. There may be engines that exceed the thresholds but the intent of the standard condition is not to guarantee that each engine that might exceed the PM standard will be tested. The Department expects few, if any, engines to actually be tested under this condition. What the Department does expect is that with the adopted condition in place, operators that find an opacity above or near the testing threshold will take corrective action necessary to reduce PM emissions. This would achieve the desired environmental outcome without the added cost of testing. The Department expects this to be the case with both thresholds.

The method is premised on the fact that a five percent difference in opacity is distinguishable. The conditions mean that if opacity readings as measured using Method 9 – with all of its limitations – exceed the threshold, the Permittee must either take corrective action or conduct a PM source test. The compliance conditions for PM do not draw a legal conclusion about whether the method shows compliance with the visible emissions standard.

Recordkeeping - The Permittee is required to record the results of PM source tests and visible emissions observations conducted during the source tests.

Reporting - The Permittee is required to report incidents when emissions in excess of the opacity threshold are observed and the results of PM source tests. The Permittee is also required to include copies of the results of all visible emission observations taken during PM source testing in the operating report.

Dual Fuel-Fired Units:

As long as dual fuel-burning emissions units operate only on gas, monitoring consists of a statement in each operating report indicating only gaseous fuels were used in the equipment during the reporting period. When any of EU IDs 3 and 4 operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in Conditions 13.2 and 13.3, is required for that emissions unit in accordance with Department Policy and Procedure No. 04.02.103, Topic # 2. When any of EU IDs 3 and 4 operates on a backup liquid fuel for 400

hours or less in a calendar year, monitoring for that unit consists of an annual certification of compliance with the particulate matter standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Emissions Units Equipped with COMS:

EU IDs 3, 4, and 8 are equipped with COMS. Per the Permittee's request, the Department has added Condition 1.2 to provide the option to monitor visible emissions using COMS. If the opacity readings using the COMS results into visible emissions greater than the thresholds under Condition 7.2 (for EU ID 8) or Condition 13.3.a (for EU IDs 3 and 4) then the Permittee is required to take corrective action or conduct a PM source test on the EU.

Significant Emissions Units under 18 AAC 50.326(d)(1):

EU IDs 24, 29, 34, 35, 105, 107, 109 – 111, and 114 – 136 have actual emissions less than the significant emissions thresholds listed in 18 AAC 50.326(e). However, they do not qualify as insignificant per 18 AAC 50.326(d)(1)(A) because they are subject to standards established under NSPS and/or NESHAP rules and/or emissions unit-specific requirements under a Title I permit. EU ID 24 is an emergency diesel engine subject to NESHAP Subpart ZZZZ; EU IDs 29, 34, and 35 are emergency diesel engines subject to of NSPS Subpart III; EU IDs 105, 107, 109 – 111, 114, and 128 – 130 are subject to the SIP BACT limits under Minor Permit AQ0316MSS08; and EU IDs 115 – 136 are subject to NSPS Subpart Y. Therefore, the Department has waived visible emissions monitoring for these EUs but they are subject to compliance certification requirements, in accordance with Department Policy and Procedure No. 04.02.103, Topic #3.

Conditions 14 through 16, Sulfur Compound Emissions

Legal Basis: This condition requires the Permittee to comply with the sulfur compound emission standards under 18 AAC 50.055(c).

- 18 AAC 50.055(c) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 3, 4, 8, 17 – 22, 24 – 27, 29, 34, and 35 are fuel-burning equipment and industrial processes.
- EUs IDs 105, 107, 109 – 111, and 114 through 136 are industrial processes; however, the sulfur compound standard does not apply to these EUs because they do not process materials or contain equipment that generate sulfur compound emissions. The Department has added footnote 7 in Condition 14 to explain non-applicability of the state sulfur compound emission standards to EU IDs 105, 107, 109 – 111, and 114 through 136.

The sulfur compound standard applies because it is contained in the federally-approved SIP. The Department included permit conditions for MR&R as required by 40 C.F.R. 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The Permittee may not cause or allow the affected equipment to violate this standard. Sulfur dioxide comes from the sulfur in the fuel (e.g., coal, natural gas, fuel oils).

Liquid Fuels:

For the liquid fuel-burning equipment, EU IDs 3 and 4 and before June 9, 2021 for EU IDs 8, 24, and 26, the MR&R conditions are SPCs XI and XII adopted into 18 AAC 50.346(c) and

Table 7 pursuant to AS 46.14.010(e). Sulfur dioxide comes from the sulfur in the liquid, hydrocarbon fuel (e.g., diesel or No.2 fuel oil). Fuel sulfur testing will verify compliance. Fuel containing no more than 0.75 percent sulfur by weight will always comply with the emission standard. For fuels with a sulfur content higher than 0.75 percent, the condition requires the Permittee to use the equations in Section 15, or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a)(3), to calculate the sulfur-dioxide concentration to show that the standard is not exceeded.

The dual fuel-fired boilers, EU IDs 3 and 4, when firing diesel, are subject to 1,000 ppmw (0.1 wt% S_{fuel}) fuel sulfur content limit beginning October 1, 2020 and ULSD fuel sulfur content limit (0.0015 ppmw wt% S_{fuel}) beginning October 1, 2023 during the period October 1 through March 31 to comply with the SO₂ SIP BACT limit due to the serious nonattainment area classification of the FNSB for PM_{2.5}. The diesel engines, EU IDs 8, 24, and 26, are also subject to ULSD beginning June 9, 2021 to comply with the SO₂ SIP BACT limit. The liquid fuel-burning boilers, EU IDs 17 – 22, are subject to ULSD fuel sulfur content limit to avoid PSD review under 18 AAC 50.306 and minor permitting under 18 AAC 50.502(c)(3)(ii). The diesel engines, EU IDs 27, 29, 34, and 35, are subject to the ULSD fuel requirement under NSPS Subpart III. Therefore, the MR&R requirements for compliance with the state SO₂ standard in Condition 14 have been streamlined for these EUs based on the more stringent fuel sulfur content limits, when applicable, rather than have two sets of MR&R.

Beyond as noted above, the Department has determined that the standard permit conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3). No additional emissions unit or stationary source operational or compliance factors indicate the unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions, as modified, meet the requirements of 40 C.F.R. 71.6(a)(3).

Gaseous Fuels:

Fuel sulfur testing will verify compliance with SO₂ emission standard. Fuel gas sulfur is measured as hydrogen sulfide (H₂S) concentration in ppmv by volume. (ppmv). Calculations show that fuel gas containing no more than 4000 ppmv H₂S will always comply with this emission standard. This is true for all fuel gases, even with no excess air. Equations to calculate the exhaust gas SO₂ concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H₂S concentration of even 10 percent of 4,000 ppmv is currently not available in Alaska and is not projected to be available during the life of this permit.

Condition 16 streamlines MR&R requirements for EU IDs 3 and 4 (when firing natural gas) for compliance with the state sulfur compound emission standard in Condition 14 by requiring compliance with the more stringent SIP BACT fuel gas H₂S limit in Condition 42.2 (3.5 ppmv H₂S content) and associated MR&R requirements in Condition 46 rather than have two sets of MR&R. The Permittee is required to keep records of semiannual certified statements from the supplier of the natural gas received via pipeline showing compliance with the fuel sulfur content limits or perform appropriate fuel testing methods semiannually, and to include copies of the certified statement or results of the H₂S fuel content analysis during the reporting period with the operating report. If the fuel sulfur content exceeds the BACT limit or if the Permittee

deviates from the permit conditions, the Permittee is required to submit an excess emissions and permit deviation report.

Conditions 17, Insignificant Emissions units

Legal Basis: The Permittee is required to meet state emission standards set out in 18 AAC 50.055 for all industrial processes fuel-burning equipment, and incinerators regardless of size.

Factual Basis: The conditions re-iterate the emission standards and require compliance for insignificant emissions units. The Permittee may not cause or allow their equipment to violate these standards. Insignificant emissions units are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The Department finds that the insignificant units at this stationary source do not require specific monitoring, recordkeeping and reporting to ensure compliance under these conditions.

Condition 17.4.a requires certification that the units did not exceed state emission standards during the previous year and did not emit any prohibited air pollution.

Conditions 18 through 27 (Section 4), State Emission Standards for Coal-Fired Boilers

Legal Basis: The Permittee is required to comply with coal-fired fuel burning equipment standards set out in 18 AAC 50.055 for visible emissions, particulate matter and sulfur compounds. These standards are part of the federally-approved SIP. The Department also added permit conditions for MR&R as required by 40 C.F.R. 71.6(a)(3) and 71.6(c)(1).

Factual Basis: These conditions apply to the coal-fired boiler, EU ID 113. The MR&R requirements for compliance with the applicable state emissions standards for visible emissions, PM, and SO₂ are carried over from the emissions unit-specific requirements provided in Minor Permit AQ0316MSS06, except as follows:

- Added a cross-reference to the Department's Performance Audits for COMS (see Section 5) in Condition 19.2, similar to SPC XIII.
- Added Conditions 19.3, 20.2, and 20.3 as gap-fill requirements to cover instances when the COMS is inoperable.
- Added more details to recordkeeping requirements in Condition 20.1.
- Removed the PM initial source requirement (already completed on October 20-21, 2021) in Condition 22.2;
- Removed the clause “that is due more than 30 days after the Permittee receives the final test report,” pertaining to operating report, at the end of Condition 22.4 to avoid confusion; and
- Added the word “summary” in Condition 22.4 and “the following information covering the reporting period” in Condition 26.2 for clarity.

Condition 27 (Section 5), Performance Audits for COMS

Legal Basis: The Permittee is required to follow the Department's performance audits for Continuous Opacity Monitoring Systems (COMS) in 18 AAC 50.030(9). EPA approved this provision as part of the Alaska SIP, as noted in 40 C.F.R. 52.74(c).

Factual Basis: This stationary source contains boilers (EU IDs 3, 4, and 113) and a diesel engine (EU ID 8) that are equipped with COMS. As set out in Conditions 1.2.a and 19.2, these EUs are required to perform COMS audits periodically, at least once in each 12-month period, during the life of the permit in accordance with 18 AAC 50.030(9).

Conditions 28 through 50, Pre-Construction Permit Requirements

Legal Basis: The Permittee is required to comply with all stationary source-specific requirements that were carried forward from previous SIP-approved Permits to Operate issued on or before January 17, 1997 and operating permits issued between January 18, 1997 and September 30, 2004, and with all stationary source-specific requirements in EPA PSD permits, SIP-approved construction permit, SIP-approved minor permits, and owner requested limits established under 18 AAC 50.225. These requirements include Best Available Control Technology (BACT) limits, limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. Requirements from the permits listed above apply because they were originally developed through case-by-case action under a federally-approved SIP or approved operating permit program.

Factual Basis: Conditions 28 through 50 reflect the emissions unit- or stationary source-specific requirements that are in effect from Title I Minor Permits AQ0316MSS03 through AQ0316MSS09. The Air Quality Permits section and Table E through Table L to the SOB describe which emissions units were authorized and how the terms and conditions have been revised, rescinded, and replaced in the Title I permits issued for the stationary source and how they are carried forward into the Title V permit. Background information details for these requirements are found in the corresponding Technical Analysis Report (TAR) for the Title I permits.

Condition 28 is an ORL established in Minor Permit No. AQ0316MSS03, which authorized the installation of EU ID 27, to avoid exceeding the minor permit applicability threshold of 10 TPY under 18 AAC 50.502(c)(3)(iii) for NO_x. To ensure compliance, the condition requires the Permittee to limit the rolling 12-month operational hours of EU ID 27 to no more than 4,380 hours, which is equivalent to 7.7 TPY of NO_x using the manufacturer's emissions factor of 3.52 lb/hr. MR&R requirements are included in the condition.

Conditions 29 through 30 carry over the requirements of Minor Permit AQ0316MSS04. This minor permit authorized the installation of EU IDs 9A and 19 – 21 and establish ORLs for HAPs major avoidance for EU ID 9A, and minor permit avoidance under 18 AAC 50.502(c)(3)(ii) and (iii) for SO₂ and NO_x for EU IDs 19 – 21. The ORL for minor permit avoidance for NO_x was subsequently revised by Minor Permit AQ0316MSS07. Condition 29 requires the Permittee to limit the amount of waste combusted in the incinerator, EU ID 9A, to 109 tons per rolling 12-month period to avoid being classified as a major source for HAPs for HCl. Condition 30 requires burning only ULSD fuel in EU IDs 19 – 21 to avoid PSD review

under 18 AAC 50.306 and minor permitting under 18 AAC 50.502(c)(3) for SO₂. MR&R requirements are included in the conditions.

Conditions 31 through 32 carry over the requirements of Minor Permit AQ0316MSS05, which rescinded Minor Permit No. AQ0316MSS02, revised the PSD avoidance requirements for EU IDs 4 and 8, and removed the option to combust coal water slurry as fuel for EU IDs 3, 4, and 8. The conditions limit SO₂ and NO_x emissions from EU IDs 4 and 8 (combined) to less than 40 TPY for each criteria pollutant, and include corresponding MR&R requirements.

Conditions 33 through 39 carry over the requirements of Minor Permit No. AQ0316MSS06 Revision 2 and Minor Permit AQ0316MSS09. These conditions are ORLs required for the new dual fuel-fired boiler, EU ID 113, to avoid full-blown PSD and minor permitting, HAPs major source classification and Nonattainment New Source Review (NA NSR). UAF is located in the Fairbanks PM_{2.5} Nonattainment Area. A stationary source is an existing PM_{2.5} nonattainment major stationary source if either direct PM_{2.5} emissions are at least 100 TPY or either of the PM_{2.5} precursor emissions (SO₂ and NO_x) are at least 100 TPY. Because the existing SO₂ and NO_x emissions are at least 100 TPY, UAF is an existing PM_{2.5} nonattainment major stationary source. The direct PM_{2.5} emissions are subject to nonattainment new source review applicability while the SO₂ and NO_x emissions are subject to both nonattainment new source review and PSD applicability.

Conditions 33 through 37 incorporate limits to avoid NA NSR for PM_{2.5} and SO₂, and to avoid PSD Review for SO₂ and CO with the installation of EU ID 113. Condition 38 incorporates HF and HCl limits on EU ID 113 to avoid HAPs major source classification. Condition 39 incorporates monitoring for EU ID 113 for determining the applicability of biomass boiler classification under 40 C.F.R. 63.11237 Subpart JJJJJ.

Minor Permit AQ0316MSS06 Revision 2 included a requirement to remove EU IDs 1 and 2 prior to full operation of EU ID 113. This first step required to achieve compliance with the ORLs for EU ID 113 has been fulfilled when EU IDs 1 and 2 were taken out of service on December 19, 2019 and EU ID 113 became fully operational on February 25, 2020. Therefore, this requirement is no longer included in this Title V renewal.

Conditions 40 through 41 incorporate the requirements of Minor Permit AQ0316MSS07. Condition 40 contains an ORL for EU IDs 17, 18, and 22 restricting the Permittee to burn only ULSD fuel in the EUs, as required in Condition 40.1. The combined potential SO₂ emissions of EU IDs 17, 18 and 22, based on burning only ULSD fuel with heating value of 137,000 Btu/gal and density of 7 lbs/gallon, and all EUs operating full time (8,760 hours per year, for worst case), is equivalent to 0.12 TPY, as indicated in Condition 40. Condition 41 contains an ORL restricting the combined NO_x emissions from EU IDs 19 – 22 to no more than 9.9 TPY by limiting the equivalent combined operational hours of the EUs to no more than 18,739 hours based on a rolling 12-consecutive-month period. These limits allow UAF to avoid exceeding the minor permit applicability threshold of 10 TPY each for SO₂ and NO_x under 18 AAC 50.502(c)(3)(A)(ii) and (iii) and thus continue to avoid minor permitting requirements to conduct ambient air quality analysis, per 18 AAC 50.540(c)(2)(A).

Conditions 42 through 49 are requirements carried over from Minor Permit AQ0316MSS08, which addresses the BACT limits applicable to the University of Alaska Fairbanks Campus, as required by the Fairbanks PM_{2.5} Serious SIP. Conditions 42 through 44 provide the fuel sulfur content limits that take effect on October 1, 2020 during the period October 1 through

March 31 for EU IDs 3, 4, and 19 through 21, on June 9, 2021 for EU IDs 8, 9A, 24, 26 through 29, and 113, and on October 1, 2023 during the period October 1 through March 31 for EU IDs 3, 4, and 19 through 21. MR&R requirements to demonstrate compliance with these limits for each fuel type are provided in Conditions 45 through 47. The Permittee is required to keep receipts or certified statement from supplier of the fuels showing compliance with the fuel sulfur content limits or perform appropriate fuel testing methods. Conditions 48 through 50 provides the PM_{2.5} limits and associated MR&R required for EU ID 9A, EU IDs 105, 107, 109, 110, 114, and 128 through 130, and EU ID 111, respectively, beginning June 9, 2021.

Conditions 51 – 60, NSPS Subpart A Requirements

Legal Basis: The EPA approved Alaska’s Part 70 Program granted on November 30, 2001 (40 C.F.R. 70 Appendix A). The Department is the permitting authority for the Part 70 program. As the permitting authority, the Department requires compliance with all permit conditions. Although the EPA has not delegated to the Department the authority to administer the New Source Performance Standard (NSPS) program, NSPS requirements are included in the definition for “applicable requirement” under 40 C.F.R. 71.2, which has been adopted by the Department under 18 AAC 50.040(j)(1).

The NSPS provisions under Subparts Db, Y, and IIII apply to the stationary source. Therefore, the Department requires compliance with those standards in a Part 70 permit issued under the approved program. However, the Department is unable to change the actual wording of the relevant standard to substitute “the Department” for “the Administrator” in those standards. Since the Department expects access to any permit-related information provided by the Permittee to the EPA, the Department will act on its responsibility as the permitting authority to determine compliance with the standard. To reflect this relationship and for the purposes of this permit, the Department has defined “the Administrator” to mean the EPA and the Department” for conditions implementing the federal emission standards under NSPS Subparts Db, Y, and IIII.

Most affected facilities (with the exception of some storage tanks) subject to an NSPS are subject to Subpart A. At this stationary source, EU IDs 4, 27, 29, 113, and 115 through 136 are subject to NSPS Subparts Db, Y, or IIII and therefore subject to Subpart A.

Conditions 51.1 through 51.3 - The Permittee has already complied with the notification requirements in 40 C.F.R. 60.7 (a)(1) - (4) for EU IDs 4, 113, and 115 through 136. However, the Permittee is subject to these requirements in the event of a new NSPS affected facility¹¹ or in the event of a modification or reconstruction of an existing facility¹² into an affected facility. The NSPS Subpart IIII affected emissions units, EU IDs 27, 29, 34 and 35, are exempt from the initial notification requirements under 40 C.F.R. 60.7(a)(1) because the units do not meet the criteria set out in 40 C.F.R. 60.4214(a).

Conditions 51.4 through 51.6 - The requirements to notify the EPA and the Department of the date of a continuous monitoring system performance demonstration, no less than 30 days

¹¹ *Affected facility* means, with reference to a stationary source, any apparatus to which a standard applies, as defined in 40 C.F.R. 60.2, effective 7/1/07.

¹² *Existing facility* means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type, as defined in 40 C.F.R. 60.2, effective 7/1/07.

before demonstration commences (40 C.F.R. 60.7(a)(5) – (7)) are applicable to EU IDs 4, 113, and 115 through 136 only if a CMS is installed as an NSPS requirement.

Condition 51.7- The requirements to notify the EPA and the Department of any proposed replacement of components of an existing facility (40 C.F.R. 60.15) apply in the event that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility.

Condition 52 - The requirements in 40 C.F.R. 60.7(b) to maintain start-up, shutdown, or malfunction records are applicable to EU IDs 4, 113, and 115 through 136. EU IDs 27, 29, 34 and 35 are not subject to the provisions of 40 C.F.R. 60.7(b), as set forth in Table 8 to Subpart III and 40 C.F.R. 60.4214(a).

Conditions 53 and 54 - NSPS excess emission reporting requirements and summary report form in 40 C.F.R. 60.7(c) and (d) are applicable to an owner or operator required to or electing to install a continuous monitoring device to monitor EUs subject to an NSPS emissions standard. Excess emissions are defined in applicable subparts. The Department has included in Attachment A of the SOB a copy of the Federal EEMSP summary report form for use by the Permittee. These reports are not required for engines under Subpart III (EU IDs 27, 29, 34 and 35).

Condition 55 – The NSPS general recordkeeping requirements under 40 C.F.R. 60.7(f) requires records retention for at least two years of the measurements required to be maintained by this Part. This requirement is satisfied by Condition 137, which requires at least five years of records retention, in accordance with 40 C.F.R. 71.6(a)(3)(ii)(B) adopted under 18 AAC 50.040(j)(4).

Condition 56 - The Permittee has already complied with the initial performance test requirements in 40 C.F.R. 60.8 for EU ID 113 under NSPS Subpart Db and for EU IDs 128 through 130 under NSPS Subpart Y. However, the Permittee is still subject to these requirements in the event of a new NSPS affected facility, in the event of a modification or reconstruction of an existing facility into an affected facility or at such other times as may be required by EPA.

Condition 57 – Good air pollution control practices (GAPCP) in 40 C.F.R. 60.11 are applicable to NSPS affected EUs that do not have specific GAPCP requirements under the respective subpart that they are subject to, as in the case of Subparts Db and Y for EU IDs 4, 113, and 115 through 136. Subpart III has specific GAPCP provisions as provided in Condition 78. Therefore, Condition 57 does not apply to EU IDs 27, 29, 34 and 35.

Condition 58 - states that any credible evidence may be used to demonstrate compliance or establishing violations of relevant NSPS standards for EU ID IDs 4, 113, and 115 through 136. The requirements of 40 C.F.R. 60.11 do not apply to EU IDs 27, 29, 34 and 35, as indicated in Table 8 to Subpart III - Applicability of General Provisions to Subpart III.

Condition 59 - Concealment of emissions prohibitions in 40 C.F. R. 60.12 are applicable to EU ID IDs 4, 27, 29, 34, 35, 113, and 115 through 136.

Condition 60 - Monitoring requirements in 40 C.F. R. 60.13 are applicable to EU ID IDs 4, 113, and 128 through 130 because a CMS is used to determine compliance with Subpart Db and Subpart Y emission standards.

Factual Basis: Subpart A contains general requirements applicable to all affected facilities (emissions units) subject to NSPS. In general, the intent of NSPS is to provide technology-based emission control standards for new, modified and reconstructed affected facilities.

Conditions 61 - 71, NSPS Subpart Db Requirements

Legal Basis: NSPS Subpart Db establishes the standards of performance for Industrial-Commercial-Institutional steam generating units that commenced construction, modification, or reconstruction after June 19, 1984, and that have a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 MMBtu/hr). EU ID 4 was constructed in 1987 and has a maximum design heat input capacity of 180.9 MMBtu/hr. EU ID 113 was constructed and installed at the stationary source in 2018 and has a maximum design heat input capacity 295.6 MMBtu/hr. Therefore, EU IDs 4 and 113 meet the applicability criteria for NSPS Subpart Db, in accordance with 40 C.F.R. 60.40b(a).

Factual Basis: Conditions 61 through 71 reflect the applicable standards and requirements of the most recent revisions to Subpart Db through February 27, 2014 as of the issuance of this permit. The conditions require the Permittee to comply with the Subpart Db SO₂, PM and Opacity, and NO_x standards applicable to EU ID 4 when combusting oil and/or natural gas, and EU ID 113 when combusting coal and/or woody biomass, and the associated compliance demonstration and MR&R requirements. The Permittee may not cause or allow EU IDs 4 and 113 to violate these standards.

Exemptions from the Subpart Db SO₂, opacity and NO_x emissions standards are allowed provided that the affected emissions unit meet the exemption criteria. The Permittee elects to use the exemption provisions for SO₂ for EU ID 4, as provided in Condition 61.1, by combusting only very low sulfur oil that meets the specifications as defined under 40 C.F.R. 60.41b. Compliance is demonstrated by obtaining fuel receipts from the fuel supplier that certify that the oil and gaseous fuel burned in the unit meet the definitions of distillate oil and natural gas as defined in 40 C.F.R. 60.41b.

Condition 62.1 provides the opacity standards that apply to EU IIDs 4 and 113. However, EU ID 113 is exempt from the opacity standard if the Permittee elects to use CEMS on EU ID 113 to monitor PM emissions. In accordance with 40 C.F.R. 60.43b(f), this exemption applies to EU ID 113 because it is subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less, as indicated in Conditions 62.2 under NSPS Subpart Db, as well as, under NESHAP Subpart JJJJJ, as shown in Conditions 96.1.a and 96.2.a.

In the Title V permit renewal application amendment dated December 5, 2014, the Permittee requested the option for EU ID 4 to comply with the requirements for exemption from the NO_x standard per 40 C.F.R. 60.44(k) be added in the permit. This would allow EU ID 4 to operate with or without the 10 percent heat input capacity factor limit required for exemption. However, EU ID 4 does not meet all the required exemption criteria under 40 C.F.R. 60.44(j) because it is no longer subject to a federally enforceable requirement limiting the operation of EU ID 4 to a combined annual capacity factor of 10 percent or less for natural gas and distillate oil burned in the EU. This limit was originally established under Permit 9631-AA001 and revised in Minor Permit AQ0316MSS02 (from 795,000 gallons/year to 158,468 MMBtu/hr), but has been rescinded by Minor Permit AQ0316MSS05 (see Table E). The exemption under 40 C.F.R. 60.44(k) no longer applies to EU ID 4 and therefore not included in this permit. The applicable Subpart Db NO_x emissions standard and the associated performance test,

compliance demonstration, CEMS, and monitoring requirements for EU IDs 4 and 113 are provided in Conditions 63, 66, and 69.

Conditions 64 and 67 provide the performance test, compliance demonstration, and monitoring requirements for compliance with the SO₂ emissions limit in Condition 61.2 that applies to EU ID 113. The Permittee is required to either install a CEMS on EU ID 113 for measuring SO₂ concentrations and either O₂ or CO₂ concentrations as described in Condition 67.1, or perform approved analytical test methods to determine SO₂ emissions from the EU, as described in Condition 67.2. EU ID 4 is subject to a federally enforceable fuel sulfur content limit (see Condition 42.1) that meets the definition of “very low sulfur oil” in 40 C.F.R. 60.41b; hence, is not subject to an SO₂ emissions limit, performance testing, or emissions monitoring requirements under Subpart Db, as indicated under Condition 61.1. Instead, the Permittee is required to maintain records of fuel receipts and include with the EPA semi-annual report a statement certifying that only very low sulfur oil were combusted in EU ID 4 during the reporting period.

Conditions 65 and 68 provide the performance test, compliance demonstration, and monitoring requirements for compliance with the opacity and PM emission standards in Condition 62 that apply to EU IDs 4 and 113. The Permittee is required to install, calibrate, maintain, and operate COMS for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. Condition 68.4 allows the Permittee to forgo the COMS requirements for EU IDs 4 and 113 provided that the EUs meet the criteria specified in the condition. As set out in Condition 68.5, the Permittee is required to monitor PM emissions from EU ID 113 by either conducting performance tests or using a PM CEMS.

Conditions 70 through 71 describes the corresponding recordkeeping and reporting requirements for compliance with the applicable Subpart Db standards for EU IDs 4 and 113. The Notification of Initial Startup required under 40 C.F.R. 60.49b(a) Subpart Db for EU ID 113 has been submitted to EPA on January 31, 2020, therefore, not included in this permit. The Department added Condition 71.7 to gap-fill the state’s excess emissions and permit deviation reporting requirements.

Conditions 72 - 76, NSPS Subpart Y Requirements

Legal Basis: NSPS Subpart Y applies to stationary sources engaged in coal preparation and processing that process more than 181 megagrams (Mg) (200 tons) of coal per day and commenced construction, reconstruction or modification after October 27, 1974. The coal handling system, EU IDs 115 through 136, meet the applicability criteria for NSPS Subpart Y under 40 C.F.R. 60.250(d), for affected coal processing and conveying equipment (including breakers and crushers), coal storage systems, transfer and loading systems, and open storage piles that commenced construction, reconstruction or modification after May 27, 2009.

Factual Basis: These conditions incorporate the Subpart Y opacity and PM emissions standards applicable to EU IDs 115 – 136. Conditions 72.1 and 72.2 prohibit the Permittee from exceeding emission standards for opacity (for EU IDs 115 through 136) and PM (for EU IDs 128 through 130) set out in Subpart Y. The Permittee may not cause or allow EU IDs 115

through 136 to violate these standards. These conditions also provide MR&R specifically called out for within the Subpart.

The Department added Condition 73.2, as carried forward from Minor Permit AQ0316MSS06 per the Permittee's request, to clarify compliance with the applicable opacity standard in Condition 72.1 for EU IDs 131 through 136 through compliance of EU IDs 128 through 130 with the same opacity standard since these units have the same emissions vent as described in the condition. In addition, the reporting requirement in Condition 76.4 is also added as a gap-fill for the state's excess emissions and permit deviation reporting requirement under Condition 141.

Conditions 77 - 83, NSPS Subpart III Requirements

Legal Basis: NSPS Subpart III applies to stationary compression ignition internal combustion engines (CI ICE) that commence construction, modification, or reconstruction after July 11, 2005 where the stationary CI ICE are manufactured after April 1, 2006 for non-fire pump engines and after July 1, 2006 for certified fire pump engines. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

EU IDs 27 is a non-emergency CI ICE while EU IDs 29, 34, and 35 are emergency CI ICEs. These EUs meet the applicability criteria of Subpart III under 40 C.F.R. 60.4200(a)(2)(i) because they are stationary non-fire pump CI ICEs that commenced construction after July 11, 2005 and are manufactured after April 1, 2006.

Factual Basis: These conditions incorporate the Subpart III emissions standards applicable to EU IDs 27, 29, 34, and 35. The Permittee may not cause or allow these emissions units to violate these standards. These conditions also provide MR&R specifically called out for the EUs within the Subpart. The Permittee is required to operate and maintain the stationary CI ICE according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer.

Emission standards that apply to Subpart III-affected CI ICE depend on several factors, including, but not limited to, the unit's purpose (whether emergency or non-emergency), model year, displacement in liters/cylinder (L/cyl), and location. Some of this information are provided in Table A of the permit.

The emission standards applicable to EU IDs 27, 29, 34, and 35 are specified under Condition 80, in accordance with 40 C.F.R. 60.4204(b) and 60.4205(b). EU IDs 27, 29, and 34 are 2007 model year and later CI ICEs subject to EPA Tier 3 emission standards as specified in Table 1 to 40 C.F.R. 89.112(a) for engines with maximum engine power greater than or equal to 225 kW but less than 450 kW. EU ID 35 is a 2007 model year and later CI ICE subject to EPA Tier 2 emission standards as specified in Table 1 to 40 C.F.R. 89.112(a) for engines with maximum engine power greater than 560 kW. These EUs are also subject to the exhaust opacity standards under 40 C.F.R. 89.113 and to the ULSD fuel requirements, as set out in Conditions 80.3 and 79, respectively.

MR&R requirements are provided in Conditions 81 through 82. Compliance with the emission standards that apply to EU IDs 27, 29, 34, and 35 in Condition 80 is demonstrated by purchasing an engine certified to the applicable emission standards. Specific requirements applicable to EU IDs 29, 34, and 35 as emergency stationary CI ICEs are specified in 40 C.F.R.

60.4211(f), as shown in Condition 81.4. Because the emergency engine, EU ID 29, is an EPA-certified Tier4i engine meeting the corresponding non-emergency standards for the same model year and maximum engine power, the requirements to install a non-resettable hour meter and associated recordkeeping requirements for emergency and non-emergency operational hours, as provided in Condition 81.4.a, are not required for EU ID 29, in accordance with 40 C.F.R. 60.4209(a) and 60.4214(b).

The Department added Condition 82 to gap-fill the operating and excess emissions and permit deviation reporting requirements. The Department has also added Condition 81.5 to provide compliance monitoring for the fuel requirements under Condition 79.

The NSPS GAPCP requirements provided in 40 C.F.R. 60.4211(a), as reflected in Condition 78, suffices the State GAPCP requirement under 18 AAC 50.346(b)(5). Provisions for importing or installing stationary CI ICE in previous model years required under 40 C.F.R. 60.4208 are provided in Condition 83.

The provisions of NSPS Subpart IIII listed in Conditions 77 through 83 are current as of December 4, 2020. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

Conditions 84, HMIWI and OSWI Rules Exemption Requirements for EU ID 9A

Legal Basis: The federal plan (FP) requirements for Hospital/Medical/Infectious Waste Incinerators (HMIWI) are codified under 40 C.F.R. 62 Subpart HHH. FP Subpart HHH regulates existing incinerators constructed on or before December 1, 2008 that burn hospital, medical, and infectious wastes. Existing HMIWIs (construction after June 20, 1996 to December 1, 2008, or modification after March 16, 1998 to April 6, 2010) located in a state that does not have an EPA-approved state plan that covers the HMIWI rules are subject to the FP 40 C.F.R. 62 Subpart HHH. Since Alaska does not have an EPA-approved state plan implementing the HMIWI rule, all existing HMIWIs in Alaska are subject to Subpart HHH.

The NSPS for Other Solid Waste Incineration (OSWI) units are codified under 40 C.F.R. 60 Subpart EEEE. NSPS Subpart EEEE regulates incinerators that are very small municipal waste combustion units and institutional waste incineration units that commenced construction after December 9, 2004. EU ID 9A meets the definition of a new OSWI as an institutional waste incineration unit, in accordance with 40 C.F.R. 60.2886 and 60.2977. However, UAF claims exemption for EU ID 9A as a pathological waste incineration unit, as allowed under 40 C.F.R. 60.2887(1).

Factual Basis: In a letter to EPA dated January 16, 2002, UAF requested the limits and requirements imposed under 40 C.F.R. 62.14400(b)(2) and 62.14490 to qualify EU ID 9A for an exemption as a co-fired combustor. This exemption allows EU ID 9A to avoid compliance with 40 C.F.R. 62 Subpart HHH emissions limits by limiting the percentage of hospital waste and medical/infectious (HMI) waste combusted in the incinerator. Condition 84.1 limits the amount of hospital, medical, and infectious wastes to 10 percent or less of the total weight of wastes and fuels burned in EU ID 9A to maintain its exempted status,. As defined in 40 C.F.R. 62.14490, “*Co-fired combustor* means a unit combusting hospital waste and/or medical/infectious waste with other fuels or wastes (e.g., coal, municipal solid waste) and subject to an enforceable requirement limiting the unit to combusting a fuel feed stream, 10

percent or less of the weight of which is comprised, in aggregate, of hospital waste and medical/infectious waste as measured on a calendar quarter basis. For purposes of this definition, pathological waste, chemotherapeutic waste, and low-level radioactive waste are considered “other” wastes when calculating the percentage of hospital waste and medical/infectious waste combusted.”

As indicated in Condition 84.2, the exemption allowed for a pathological waste incineration unit under 40 C.F.R. 60.2887(l) Subpart EEEE requires the owner/operator of an affected incinerator to burn 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste, and to notify the Administrator that the unit meets these criteria. UAF notified the Administrator in a letter dated February 26, 2007 of its intent to claim the exemption for pathological waste incineration units.

Monitoring, recordkeeping and reporting requirements in Condition 84.3 were added to the permit as a tool for UAF to show compliance with the exemption requirements. Calculations for calendar quarter percentages of HMI and combined pathological, low-level radioactive, and/or chemotherapeutic wastes are as described in Conditions 84.3.b(iv) and 84.3.b(v).

Condition 85, NESHAP Subpart A Requirements

Legal Basis: The Permittee must comply with applicable National Emission Standards for Hazardous Air Pollutants (NESHAP). NESHAP requirements are included in the “applicable requirement” definition under 40 C.F.R. 71.2, which has been adopted by the Department under 18 AAC 50.040(j)(1).

Most sources subject to NESHAPs requirements are subject to Subpart A. This condition applies because the Permittee operates EUs subject to

- NESHAP Subpart ZZZZ for Stationary RICE (EU IDs 8, 23, 24, and 26 through 29); and
- NESHAP Subpart JJJJJ for boilers (EU IDs 3, 4, 17 through 22, and 113).

Factual Basis: Subpart A contains general requirements applicable to all affected facilities and emissions units subject to NESHAPs. In general, the intent of NESHAPs are to regulate specific categories of stationary sources that emit or have the potential to emit one or more hazardous air pollutants.

Conditions 86 - 91, NESHAP Subpart ZZZZ Requirements

Legal Basis: The Department has incorporated by reference the NESHAP requirements for specific industrial activities, as listed in 18 AAC 50.040(c). NESHAP Subpart ZZZZ applies to any existing, new, or reconstructed stationary reciprocating internal combustion engines (RICE), whose construction commenced before June 12, 2006, located at a major or area source of HAP emissions, excluding stationary RICE units being tested at a stationary RICE test cell/stand.

Factual Basis: University of Alaska Fairbanks Campus is an area source that owns and operates existing RICE units, EU IDs 8, 24, and 26, subject to NESHAP Subpart ZZZZ in accordance with 40 C.F.R. 63.6585(c) and 63.6590(a)(1)(iii). However, per 40 C.F.R. 63.6585(f)(3), institutional emergency stationary RICE located at an area source of HAP emissions are exempt from the requirements of NESHAP Subpart ZZZZ, for as long as:

(1) they meet the definition of an emergency stationary RICE in §63.6675, (2) do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), and (3) do not operate for the purpose specified in §63.6640(f)(4)(ii), then they are not subject to this subpart. EU IDs 8 and 24 meet these exemption requirements, as provided in Conditions 86.1 and 87.

Although EU ID 8, was originally used as a peaking/backup Generator (which, as defined in §63.6675, “*peaking unit or engine* means any standby engine intended for use during periods of high demand that are not emergencies”), UAF is currently operating EU 8 as an emergency engine. Therefore, until UAF reclassifies this engine as non-emergency, EU 8 is not subject to 40 C.F.R. 63 Subpart ZZZZ per §63.6585(f)(3). Condition 87.6 was added to require the Permittee to notify the Department when EU ID 8 no longer operates as an emergency and, thus, become subject to corresponding Subpart ZZZZ requirements for a non-emergency CI stationary RICE >500 Hp.

EU ID 26 is a 64-Hp existing stationary non-emergency RICE unit. As such, EU ID 26 is subject to the applicable NESHAP Subpart ZZZZ work and management practice standards and monitoring requirements, as set out in Conditions 88 and 89; associated recordkeeping and reporting requirements are provided in Conditions 90 and 91. The Permittee is required to operate and maintain EU ID 26 according to the manufacturer’s emission-related operation and maintenance instructions; or develop a custom plan, which provides for the maintenance and operation of the EUs in a manner consistent with good air pollution practice for minimizing emissions. EU ID 26 is exempt from the fuel requirements, per §63.604(a) because the EU is less than 300 brake Hp. It is also exempt from the notification requirements per 40 C.F.R. 63.6645(a)(5), since it is less than 100 Hp, as well as, not subject to numerical emission standards.

EU IDs 27, 29, 34, and 35 are subject to NSPS Subpart IIII requirements. By complying with the requirements in NSPS Subpart IIII for these EUs, the requirements for NESHAP Subpart ZZZZ are fulfilled.

The provisions of NESHAP Subpart ZZZZ listed in Conditions 86 through 91 are current as amended through December 4, 2020. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

Conditions 92 - 104, NESHAP Subpart JJJJJ Requirements

Legal Basis: NESHAP Subpart JJJJJ applies to owners and operators of industrial, commercial, or institutional boilers as defined in 40 C.F.R. 63.11237 that are located at, or is part of, an area source of HAP emissions. UAF Campus is an area source that contains institutional boilers, EU IDs 13, 4, 17 through 22, and 113, subject to the provisions of NESHAP Subpart JJJJJ.

Factual Basis: These conditions incorporate the NESHAP Subpart JJJJJ emissions limits and work practice standards applicable to EU IDs 3, 4, 17 through 22, and 113. The conditions outline applicable emissions and operating limits, work and management practices, good air pollution control practices, compliance, notification, recordkeeping, and reporting requirements. Table B shows a summary of the NESHAP Subpart JJJJJ requirements applicable to each affected boiler unit.

EU ID 113 is subject to emission limits for filterable PM, Hg, and CO, as well as, required operational limits to demonstrate compliance with emission limits, as specified in Conditions 96 and 97. Good air pollution control practices, work practice standards, emission reduction measures, and management practices that apply to EU IDs 3, 4, 17 – 22, and 113 are described in Conditions 94 and 95. Pertinent compliance demonstration, monitoring, recordkeeping, and reporting requirements are provided in Conditions 98 through 104.

EU IDs 3 and 4 are dual fuel-fired boilers, capable of burning gaseous fuel or liquid fuel. Gas-fired boilers, as defined in 40 C.F.R. 63.11237, are not subject to the requirements of NESHAP Subpart JJJJJ. Based on historical operations data of EU IDs 3 and 4, the EUs are primarily operating on liquid (diesel) fuel. As such, EU IDs 3 and 4 are subject to a one-time energy assessment, which have been completed on July 16, 2014 (for EU ID 3) and October 3, 2014 (for EU ID 4) and corresponding Notice of Compliance Status has been submitted. EU IDs 3 and 4 are also required to perform biennial tune ups.

EU IDs 17 – 22 are existing oil-boilers with ratings less than 10 MMBtu/hr. EU IDs 17 and 18 have ratings less than 5 MMBtu/hr and therefore are subject to 5-year performance tune-ups. EU IDs 19 – 22 have ratings greater than 5 MMBtu/hr but less than 10 MMBtu/hr and therefore are subject to biennial performance tune-ups. However, UAF indicated in its Title V renewal application that EU IDs 19 – 21 may qualify as seasonal boilers based on their historical operations data. “Seasonal boiler” as defined under 40 C.F.R. 63.11237, means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing which shall not exceed a combined total of 15 days during the 7-month shutdown. When classified as seasonal boilers, EU IDs 19 – 21 are required to conduct a performance tune-up of each boiler every 5 years, instead of every 2 years. As provided in Condition 104.3.b(iv), the Permittee is required to keep records of days of operation per year to properly monitor seasonal boiler status of the EUs. The Department added Condition 104.7.c to gap-fill reporting requirement should EU IDs 19 – 21 no longer meet category as seasonal boilers as defined under 40 C.F.R. 63.11237.

EU ID 113 is a circulating fluidized bed (CFB) dual fuel-fired boiler capable of burning biomass and coal. Biomass subcategory includes any boiler that burns any biomass and is not in the coal subcategory. Coal subcategory includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis. Because Subpart JJJJJ requires specific requirements when the boiler operates as a coal-fired or biomass subcategory, Condition 39 is added in the permit, as carried over from Minor Permit No. AQ0316MSS06, to monitor and determine when the unit is operating as a biomass boiler. When operating as a biomass boiler, EU ID 113 is subject to filterable PM emission limit, as shown in Condition 96.2.a. When operating as a coal-fired boiler, EU ID 113 is subject to filterable PM, Hg, and CO emission limits, as shown in Conditions 96.1.a, 96.1.b, and 96.1.c, respectively. EU ID 113 is subject to stack performance testing in accordance with Condition 100 initial compliance and, in some cases, subsequent compliance demonstration with the emissions limits. The Permittee is also required to establish various operating limits for EU ID 113, as specified in Condition 97, to demonstrate continuous compliance with the emission limits. Fuel analyses, as described in Condition 101, may be used instead of stack tests to demonstrate compliance with the mercury emission limit.

The provisions of NESHAP Subpart JJJJJ listed in Conditions 92 through 104 are current as amended through September 14, 2016. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

Conditions 105 – 108, CAM Plan

Legal Basis: The Department found that EU IDs 8 and 113 meet all three applicability criteria listed under the General Applicability section in 40 C.F.R. 64.2(a). EU ID 8 meets the criteria for NO_x and EU ID 113 meet these criteria for PM. See the CAM Applicability section of this SOB for a detailed discussion of the CAM Applicability determination.

Factual Basis: The CAM plan for EU ID 8 (and the now obsolete EU IDs 1 and 2) was submitted to the Department on July 12, 2010, and clarified by the Permittee on January 21, 2011. The plan was approved through the issuance of Operating Permit No. AQ0316TVP02, Revision 1. The plan requires the Permittee to monitor the pressure drop across the catalyst, the temperature of the catalyst, and the concentration of the ammonia in the catalyst outlet gas for EU ID 8. Concentration of ammonia in the catalyst outlet gas (also known as ammonia slip), is an indicator of the effectiveness of the catalytic reaction. If a catalyst becomes poisoned (inactivated due to destruction of the active chemical component of the catalyst) ammonia slip will increase as the rate of the catalytic reaction between NO_x and ammonia slows down.

The plan sets out indicator ranges for each of the above parameters. In the case of monitoring ammonia concentration in the catalyst outlet gas for EU ID 8, the Permittee requested a monitoring frequency of every 5,000 hours of operation. The Department decreased this time period to 500 hours to ensure more frequent monitoring for ammonia slip. If an excursion from the indicator range is measured, the Permittee must take corrective action to restore normal operating conditions.

The Department added monitoring in the presence of ammonia flow into the catalyst as a new indicator under Condition 105 because ammonia injection is a component of effective catalytic operation.

For EU ID 113, the Department has added Condition 157 requiring submittal, development, and implementation of a CAM plan, as well as, compliance schedule and submittal of progress reports. The Permittee is required to submit a CAM Plan for EU ID 113, in accordance with 40 C.F.R. 64, within 60 days after the issuance of this permit and to have fully implemented the monitoring strategy within six months after the issuance of this permit.

Condition 109, Asbestos NESHAP

Legal Basis: The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 C.F.R. 61, Subpart M. This condition ensures compliance with the applicable requirement in 18 AAC 50.040(b)(1) and (2)(F). The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation.

Factual Basis: Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with these Federal regulations.

Condition 110, Refrigerant Recycling and Disposal

Legal Basis: This condition ensures compliance with the applicable requirement in 18 AAC 50.040(d) and applies if the Permittee engages in the recycling or disposal of certain refrigerants. The condition requires the Permittee to comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F that will apply if the Permittee uses certain refrigerants.

Factual Basis: Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with this Federal regulation.

Conditions 111 - 112, Halon Prohibitions

Legal Basis: These prohibitions apply to all stationary sources that use halon for extinguishing fires and inert gas to reduce explosion risk. The condition prohibits the Permittee from causing or allowing violations of these prohibitions. The University of Alaska Fairbanks Campus uses halon and is therefore subject to the Federal regulations contained in 40 C.F.R. 82.

Factual Basis: These conditions incorporate applicable 40 C.F.R. 82 requirements. The Permittee may not cause or allow violations of these prohibitions.

Condition 113, NESHAPs Applicability Determinations

Legal Basis: This condition requires the Permittee to determine rule applicability of NESHAPS, and requires record keeping for those determinations if required by the source classification.

Factual Basis: The Permittee has conducted an analysis of the stationary source and determined that it is not a major HAPs stationary source based on emissions. This condition requires the Permittee to notify the Department and Administrator if the stationary source becomes an affected source subject to a standard promulgated by EPA under 40 C.F.R. 63 and to keep records of applicability determinations and make those records available to the Department.

Conditions 114 - 116, Standard Terms and Conditions

Legal Basis: These are standard conditions required for all operating permits under 18 AAC 50.345(a) and (e)-(g). As stated in 18 AAC 50.326(j)(3), the standard permit conditions of 18 AAC 50.345 replace the provisions of 40 C.F.R. 71.6(a)(5) – (7).

Factual Basis: These are standard conditions that apply to all permits.

Condition 117, Administration Fees

Legal Basis: This condition ensures compliance with the applicable fee requirement in 18 AAC 50.400-403. As stated in 18 AAC 50.326(j)(1), the provisions of 18 AAC 50.400 through 50.430 are applicable and 40 C.F.R. 71.9 is not applicable.

Factual Basis: Paying administration fees is required as part of obtaining and holding a permit with the Department or as a fee for a Department action. The regulations in 18 AAC 50.400-403 specify the amount, payment period, and the frequency of fees applicable to a permit action.

Conditions 118 - 119, Emission Fees

Legal Basis: These conditions ensure compliance with the applicable requirement in 18 AAC 50.410-420. The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions. As stated in 18 AAC 50.326(j)(1), the provisions of 18 AAC 50.400 through 50.430 are applicable and 40 C.F.R. 71.9 is not applicable.

Factual Basis: The Department used the language in SPC I, adopted by reference under 18 AAC 50.346(b), for the permit. SPC I requires the Permittee to pay fees in accordance with the Department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date. The assessable emissions are the lesser of the stationary source's potential or projected emissions of each air pollutant at 10 tons per year or greater (AS 46.14.250(h)(1)).

SPC I also allows the Permittee to recalculate the stationary source's assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1), assessable emissions are based on each air pollutant. Therefore, fees shall be paid on any pollutant emitted whether or not the permit contains any limitation for that pollutant.

This standard condition specifies that, unless otherwise approved by the Department, calculations of assessable emission must be based on actual emissions for the previous calendar year. Since each current year's assessable emission are based on the previous year, the Department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match.

Condition 120, Good Air Pollution Control Practice

Legal Basis: This condition requires compliance with the requirements in 18 AAC 50.346(b)(5) and applies to all emissions units, **except** those subject to an emission standard in 40 C.F.R. 60, 61, or 63, those subject to continuous emission or parametric monitoring requirements, and insignificant emissions units.

Factual Basis: The condition requires the Permittee to comply with good air pollution control practices for all units.

The Department adopted this condition under 18 AAC 50.346(b) as SPC VI pursuant to AS 46.14.010(e). Records kept in accordance with Condition 120.2 for units subject to GAPCP need to be maintained for 5 years in accordance with Condition 137 even if a unit is no longer subject to this condition.

Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the Department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The Permittee is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the Department. The

Department may use these records as a trigger for requesting source testing if the records show that an adequate maintenance is not maintained.

Condition 121, Dilution

Legal Basis: This condition reiterates 18 AAC 50.045(a), which prohibits the Permittee from using dilution as an emission control strategy. 18 AAC 50.045 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2.

Factual Basis: The condition prohibits the Permittee from diluting emissions as a means of compliance with any standard in 18 AAC 50.

Condition 122, Reasonable Precautions to Prevent Fugitive Dust

Legal Basis: This condition reiterates 18 AAC 50.045(d), which requires the Permittee to use reasonable precautions when handling, storing or transporting bulk materials or engaging in an industrial activity. 18 AAC 50.045 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2.

This requirement applies because the Permittee has an emissions unit or activity listed under Table 7 of 18 AAC 50.346(c). The listed emissions units and activities in Table 7 are: coal-fired boilers; coal handling facilities; construction of gravel pads or roads that are part of a permitted stationary source or other construction that has the potential to generate fugitive dust that reaches ambient air; commercial/industrial/municipal solid waste, air curtain, and medical waste incinerators; sewage sludge incinerators not using wet methods to handle that ash; mines; urea manufacturing; soil remediation units; or dirt roads under the control of the operator with frequent vehicle traffic.

Factual Basis: The Department used the language in SPC X for the permit. The condition requires the Permittee to take reasonable action to prevent particulate matter from being emitted into the ambient air in accordance with 18 AAC 50.045(d).

Condition 123, Stack Injection

Legal Basis: This condition reiterates 18 AAC 50.055(g), which prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack (i.e., disposing of material by injecting it into a stack). 18 AAC 50.055 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2.

Stack injection requirements apply to the stationary source because the stationary source contains a stack or unit constructed or modified after November 1, 1982.

Factual Basis: No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the unit or stack would need to be modified to accommodate stack injection.

Condition 124, Air Pollution Prohibited

Legal Basis: This condition requires compliance with 18 AAC 50.110. 18 AAC 50.110 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2. The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which would

unreasonably interfere with the enjoyment of life or property. The Department also included permit conditions for MR&R as required by 40 C.F.R. 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The Department used the language in SPC II for the permit. This condition spells out how to monitor, record, and report prohibited air pollution. While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Permittee is required to report any complaints and injurious emissions. The Permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints, and must submit copies of these records upon request of the Department.

Condition 125, Technology-Based Emission Standard

Legal Basis: The Permittee is required to take reasonable steps to minimize emissions if unavoidable emergency, malfunction, or non-routine repair activities cause an exceedance of any technology-based emission standard in this permit. This condition requires compliance with the applicable requirement in 18 AAC 50.235. Technology-Based Emission Standard requirements apply because the stationary source contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

Factual Basis: The conditions of this permit list applicable technology-based emission standards and require excess emission reporting for each standard in accordance with Condition 141. Excess emission reporting under Condition 141 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 141.

Condition 126, Open Burning

Legal Basis: The condition requires the Permittee to comply with the regulatory requirements in 18 AAC 50.065 when conducting open burning at the stationary source. 18 AAC 50.065 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 C.F.R. 71.2. The state open burning regulation in 18 AAC 50.065 applies to the Permittee if the Permittee conducts open burning at the stationary source.

Factual Basis: The Permittee may conduct open burning by following the provisions of 18 AAC 50.065 and by following the Department guidelines posted at the website <http://dec.alaska.gov/air/air-permit/open-burn-info>. Condition 126.1 requires the Permittee to keep records to demonstrate compliance with the standards for conducting open burning.

More extensive monitoring and recordkeeping is not warranted because the Permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored. Compliance is demonstrated through annual certification required under Condition 143.

Condition 127, Requested Source Tests

Legal Basis: The Permittee is required to conduct source tests as requested by the Department. This requirement is under 18 AAC 50.220(a) and 50.345(k), which are included in the SIP approved by EPA.

Factual Basis: This condition applies because this is a standard condition to be included in all operating permits as specified in 18 AAC 50.345(a). Compliance is demonstrated through the submission of the required source test plan and report.

Conditions 128 - 130, Operating Conditions, Reference Test Methods, Excess Air Requirements

Legal Basis: Conditions 128 and 130 require compliance with the applicable requirements in 18 AAC 50.220(b) and (c)(3), which are included in the SIP approved by EPA. Condition 129 specifies source test methods, as required by 40 C.F.R. 71.6(a)(3)(i) and 71.6(c)(1). These requirements apply because the Permittee is required by the permit to conduct source tests or a source test may be requested by the Department. The Permittee is required to conduct source tests in the manner set out in Conditions 128 through 130.

Factual Basis: These conditions supplement the specific monitoring requirements stated elsewhere in this permit.

Condition 131, Test Exemption

Legal Basis: This condition incorporates the source test exemption in 18 AAC 50.345(a) regarding visible emissions observations. 18 AAC 50.345(a) is included in the SIP approved by EPA.

Factual Basis: As provided in 18 AAC 50.345(a), the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 132 - 135, Test Deadline Extension, Test Plans, Notifications and Reports

Legal Basis: Conditions 133 through 135 require compliance with the applicable requirement in 18 AAC 50.345(m) through (o), which are included in the SIP approved by EPA. Condition 132 contains the requirement in 18 AAC 50.345(l). The requirements in 18 AAC 50.345(l) through (o) constitute standard conditions that must be included in each operating permit, as specified in 18 AAC 345(a). These requirements apply because the Permittee is required to conduct source tests as set out by this permit or as requested by the Department.

Factual Basis: These standard conditions supplement specific monitoring requirements stated elsewhere in this permit.

Condition 136, Particulate Matter (PM) Calculations

Legal Basis: This condition requires the Permittee to reduce particulate matter data in accordance with 18 AAC 50.220(f), which is included in the SIP approved by EPA. It applies when the Permittee tests for compliance with the particulate matter standards in 18 AAC 50.050 or 50.055.

Factual Basis: The condition incorporates a regulatory requirement for particulate matter source tests. The Permittee must use the equation given in this condition to calculate the particulate matter emission concentration from the source test results. This condition supplements specific monitoring requirements stated elsewhere in this permit.

Condition 137, Recordkeeping Requirements

Legal Basis: This condition requires the Permittee to keep records in accordance with 40 C.F.R. 71.6(a)(3)(ii), which the Department adopted by reference under 18 AAC 50.040(j)(4). It also incorporates the general NSPS recordkeeping requirement under 40 C. F. R. 60.7(f), which the Department adopted by reference under 18 AAC 50.040(a)(1).

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide evidence of compliance with this requirement.

40 C.F.R. 60.7(f) requires records retention for at least two years of the measurements required to be maintained by this Part while 40 C.F.R. 71.6(a)(3)(ii) requires at least five years of records retention. The five-year records retention requirement in Condition 137 satisfies both 40 C.F.R. 60.7(f) and 40 C.F.R. 71.6(a)(3)(ii).

Condition 138, Certification

Legal Basis: All operating permits must contain a requirement to certify any permit application, report, affirmation, or compliance certification, per 18 AAC 50.345(j). Both requirements are part of the SIP approved by EPA.

Factual Basis: The Department used the language in SPC XVII, adopted by reference under 18 AAC 50.346(b)(10), for the permit condition. The requirement in 18 AAC 50.345(j) is a standard condition that must be included in each operating permit, as specified in 18 AAC 50.345(a). 18 AAC 50.345(j) allows the excess emissions reports to be certified with the operating report. However, the Department reminds the Permittee that excess emissions reports must be submitted according to the applicable deadline given in Condition 141 and must not be withheld from the Department until the deadline for submittal of an operating report. This condition supplements the reporting requirements of this permit. The certification statement through electronic signature and options for submittal provide paperless options for reporting without compelling Permittees to any specific means of submission.

Condition 139, Submittals

Legal Basis: This condition applies because the Permittee is required to send reports to the Department and supplements the standard reporting and notification requirements of this permit.

Factual Basis: The Department used the language in SPC XVII, adopted by reference under 18 AAC 50.346(b)(10), for the permit condition. This condition lists the Department's appropriate address for reports and written notices. This condition states that the Department requires one certified copy of submitted reports (except as otherwise required by the Department or other conditions of the permit) and provides an allowance for either electronic or hard copy document submittals. The condition also directs the Permittee to refer to the submission instructions on the Department's Standard Permit Conditions webpage for

additional information regarding document submittals (e.g., the appropriate Department address).

Condition 140, Information Requests

Legal Basis: All operating permits must include a condition that requires the Permittee to furnish certain information upon request, per 18 AAC 50.345(i). The requirement is part of the SIP approved by EPA.

Factual Basis: The requirement in 18 AAC 50.345(i) is a standard condition that must be included in each operating permit, as specified in 18 AAC 345(a). This condition requires the Permittee to submit information requested by the Department.

Condition 141 and Section 16, Excess Emission and Permit Deviation Reports

Legal Basis: This condition requires the Permittee to comply with the requirements in 18 AAC 50.235(a)(2) and 18 AAC 50.240(c). Also, the Permittee is required to notify the Department when emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two state regulations related to excess emissions: the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The Department used the language in SPC III, adopted by reference under 18 AAC 50.346(b)(2), for the permit condition. The Department used the notification form in SPC IV adopted by reference under 18 AAC 50.346(b)(3), for the notification requirements (see Section 16) for the notification requirements.

Condition 142, Operating Reports

Legal Basis: The condition specifies the reporting requirements as required by 40 C.F.R. 71.6(a)(3)(iii)(A) which the Department has adopted by reference under 18 AAC 50.040(j)(4).

Factual Basis: The Department used the language in SPC VII, adopted by reference under 18 AAC 50.346(b)(6), for the permit condition. The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit.

The condition specifies that for the transition periods between an expiring permit and a renewal permit, the Permittee shall ensure that there is date-to-date continuity between the expired permit and the renewal permit such that the Permittee reports against the permit terms and conditions of the permit that was in effect during those partial date periods of the transition. No format is specified. The Permittee may provide one report accounting for each permit term or condition and the effective permit at that time. Alternatively, the Permittee may choose to provide two reports: one accounting for reporting elements of permit terms and conditions from the end date of the previous operating report until the date of expiration of the old permit, and a second operating report accounting for reporting elements of terms and conditions in effect from the effective date of the renewal permit until the end of the reporting period.

Condition 143, Annual Compliance Certification

Legal Basis: This condition requires compliance with the requirements in 40 C.F.R. 71.6(c)(5), which the Department adopted by reference under 18 AAC 50.040(j).

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification.

Condition 143.2 provides clarification of transition periods between an expiring permit and a renewal permit to ensure that the Permittee certifies compliance with the permit terms and conditions of the permit that was in effect during those partial date periods involved in the transition. No format is specified. The Permittee may provide one report certifying compliance with each permit term or condition for each of the effective permits during the certification period, or may choose to provide two reports: one certifying compliance with permit terms and conditions from January 1 until the date of expiration of the old permit, and a second report certifying compliance with terms and conditions in effect from the effective date of the renewal permit until December 31.

The Permittee is required to submit to the Department an annual compliance certification report. The Permittee may submit the required report electronically at their discretion.

Condition 144, Emission Inventory Reporting

Legal Basis: This condition requires the Permittee to submit emissions data to the state so the state is able to satisfy the federal requirement to submit emission inventory data from point sources to the EPA as required under 40 C.F.R. 51.15 and 51.321. The emission inventory requirement applies to sources defined as point sources in 40 C.F.R. 51.50. The state must report emissions data as described in 40 C.F.R. 51.15 and the data elements in Tables 2a and 2b to Appendix A of 40 C.F.R. 51 Subpart A to EPA.

Factual Basis: The Department used the language in SPC XV, as adopted by reference under 18 AAC 50.346(b)(8), for the permit condition.

The emission inventory data is due to EPA 12 months after the end of the reporting year (40 C.F.R. 51.30(a)(1) and (b)(1)). Permittees have until April 30th to compile and submit the data to the Department. To expedite the Department's process of transferring data into EPA's electronic reporting system, the Department encourages Permittees to submit the emission inventory through the Department's electronic emission inventory submission system in the Permittee Portal on the Department's Air Online Services webpage <http://dec.alaska.gov/Applications/Air/airtoolsweb/>. A myAlaska account and profile are needed to gain access to the Permittee Portal. Other options are to submit the emission inventory via mail, email, or fax.

Detailed instructions on completing and submitting the emission inventory and the report form are available at the Point Source Emission Inventory page <http://dec.alaska.gov/Applications/Air/airtoolsweb/PointSourceEmissionInventory> by clicking the Emission Inventory Instructions button. The emission inventory instructions and report form may also be obtained by contacting the Department.

To ensure that the Department's electronic system reports complete information to the National Emissions Inventory, Title V stationary sources are required to submit with each report emissions data described in 40 C.F.R. 51.15 and the data elements in Tables 2a and 2b to Appendix A of 40 C.F.R. 51 Subpart A, as applicable. Title V stationary sources with potential annual emissions greater than or equal to any of the emission thresholds shown in Condition 144.1 for Type A (large) sources, as listed in Table 1 to Appendix A of 40 C.F.R. 51 Subpart A, are required to report emission inventory data every year for the previous calendar year

(also known as the inventory year). For triennial inventory years, Type A sources only need to submit one report, not both an annual report and a separate triennial report.

Title V stationary sources with potential annual emissions greater than or equal to any of the emission thresholds for Type B (small) sources shown in Condition 144.2.a (for attainment and unclassifiable areas) and Condition 144.2.b (for nonattainment areas), as listed in Table 1 to Appendix A of 40 C.F.R. 51 Subpart A, are required to report emission inventory data every third year (i.e., triennially) for the previous inventory year. The emission thresholds for nonattainment areas listed in Condition 144.2.b vary depending on the nonattainment status of the area. As of June 9, 2017, Fairbanks and North Pole urban area have been designated by the federal administrator as "serious nonattainment" for PM_{2.5}. Therefore, a stationary source located in Fairbanks and North Pole urban area is subject to the triennial reporting requirement if its potential to emit is greater than or equal to any of the threshold values in Conditions 144.2.b(i), 144.2.b(ii), 144.2.b(iii) (PM₁₀ only), and 144.2.b(iv).

As of the issue date of this permit, the University of Alaska Fairbanks Campus is a Type B stationary source located in a Serious Nonattainment Area for PM_{2.5}.

Condition 145, NSPS and NESHAP Reports

Legal Basis: The Permittee is required to provide the Department a copy of each report submitted to EPA as required for emissions units subject to NSPS or NESHAP federal regulations under 18 AAC 50.326(j)(4). Appendix A to 40 C.F.R. 70 documents that EPA fully approved the Alaska operating permit program effective November 30, 2001.

Factual Basis: The condition supplements the specific reporting requirements in 40 C.F.R. 60, 40 C.F.R. 61, and 40 C.F.R. 63. The reports themselves provide monitoring for compliance with this condition.

Condition 146, Permit Applications and Submittals

Legal Basis: 40 C.F.R. 71.10(d)(1), adopted by reference by the Department under 18 AAC 50.040(j)(7), requires submission of a copy of each permit application to EPA.

Factual Basis: The Department used the language in SPC XIV, adopted by reference under 18 AAC 50.346(b)(7), for the permit condition. The condition directs the applicant to send a copy of each application for modification or renewal of this permit to the EPA. The information may be submitted in electronic format, if practicable. This condition shifts the burden of compliance with 40 C.F.R. 71.10(d)(1) from the Department to the Permittee as allowed under 40 C.F.R. 71.10(d)(1).

Conditions 147 - 149, Permit Changes and Revisions Requirements

Legal Basis: The Permittee is obligated to notify the Department of certain off-permit source changes and operational changes under 18 AAC 50.326(j)(4). 40 C.F.R. 71.6(a)(8), (12), and (13), incorporated by reference under 18 AAC 50.040(j), require that these provisions be included in operating permits.

Factual Basis: 40 C.F.R. 71.6(a)(12) and (13), as reflected in Conditions 148 and 149, respectively, specify changes that may be made without a permit revision, and 40 C.F.R. 71.6(a)(8) (Condition 147) states permit revisions are not required for some emissions trading and similar programs.

The Permittee did not request trading of emission increases and decreases as described in 71.6(a)(13)(iii); therefore, language addressing these provisions has not been included in this permit as part of Condition 147).

Condition 150, Permit Renewal

Legal Basis: The Permittee must submit a timely and complete operating permit renewal application if the Permittee intends to continue source operations in accordance with the operating permit program. The obligations for a timely and complete operating permit application are set out in 40 C.F.R. 71.5(a) – (c), adopted by reference in 18 AAC 50.040(j)(3), and 18 AAC 50.326(c).

Factual Basis: In accordance with AS 46.14.230(a), this operating permit is issued for a fixed term of five years after the date of issuance, unless a shorter term is requested by the permit applicant. The Permittee is required to submit an application for permit renewal by the specific dates applicable to the stationary source as listed in this condition. As stated in 40 C.F.R. 71.5(a)(1)(iii), submission for a permit renewal application is considered timely if it is submitted at least six months but no more than eighteen months prior to expiration of the operating permit. According to 71.5(a)(2), a complete renewal application is one that provides all information required pursuant to 40 C.F.R. 71.5(c) and remits payment of fees owed under the fee schedule established pursuant to 18 AAC 50.400. 40 C.F.R. 71.7(b) states that if a source submits a timely and complete application for permit issuance (including renewal), the source's failure to have a permit is not a violation until the permitting authority takes final action on the permit application.

Therefore, as long as an application has been submitted within the timeframe specified under 40 C.F.R. 71.5(a)(1)(iii), and is complete before the expiration date of the existing permit, then the expiration of the existing permit is extended and the Permittee has the right to operate under that permit until the effective date of the new permit. However, this protection shall cease to apply if, subsequent to the completeness determination, the applicant fails to submit by the deadline specified in writing by the Department any additional information needed to process the application.

Conditions 151 - 156, General Compliance Requirements and Schedule

Legal Basis: These conditions require compliance with the applicable requirement in 18 AAC 50.345(b) through (d) and (h) and 40 C.F.R. 71.6(c)(3). As stated in 18 AAC 50.345(a), the requirements in 18 AAC 50.345(b) through (d) and (h) are standard conditions that must be included in all operating permits issued by the Department.

Factual Basis: These are standard conditions for compliance required for all operating permits.

Condition 157, Compliance Schedule for CFB Boiler, EU ID 113

Legal Basis: The CAM rule applies because the Permittee will not be in compliance with the applicable requirements under 40 C.F.R. 64 for EU ID 113 at the time of permit issuance. The evaluation of the applicability criteria under 40 C.F.R. 64(a) for EU ID 113 is discussed under the CAM Applicability section of this SOB.

Factual Basis: The Department found that EU ID 113 meets all three applicability criteria listed under the General Applicability section in 40 C.F.R. 64.2(a) for the criteria pollutant

PM. In accordance with the schedule of compliance under 40 C.F.R. 71.6(c)(3), Condition 157 establishes remedial measures, including enforceable sequence of actions with milestones, leading to the compliance with 40 C.F.R. 64 “Compliance Assurance Monitoring” for EU ID 113.

Conditions 158 - 159, Permit Shield

Legal Basis: These conditions require compliance with the requirements 40 C.F.R. 71.6(f), which the Department has adopted by reference under 18 AAC 50.040(j)(4). These requirements apply because the Permittee has requested that the Department shield the source from specific non-applicable requirements listed under this condition.

Factual Basis: Table C of Operating Permit No. AQ0316TVP03 shows the permit shield that the Department granted to the Permittee. The permit conditions set forth the requirements that the Department determined were not applicable to the stationary source at the time of permit issuance.

ATTACHMENT A

FIGURE 1--SUMMARY REPORT--GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE

[Note: This form is referenced in 40 C.F.R. 60.7, Subpart A-General Provisions]

Pollutant (*Circle One*): SO₂ NO_x TRS H₂S CO Opacity

Reporting period dates: From _____ to _____

Company:
 Emission Limitation: _____

Address: _____

Monitor Manufacturer: _____

Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period ¹: _____

Emission Data Summary ¹	CMS Performance Summary ¹
1. Duration of excess emissions in reporting period due to: a. Startup/shutdown _____ b. Control equipment problems _____ c. Process problems _____ d. Other known causes _____ e. Unknown causes _____ 2. Total duration of excess emissions _____ 3. Total duration of excess emissions x (100) / [Total source operating time] % ²	1. CMS downtime in reporting period due to: a. Monitor equipment malfunctions _____ b. Non-Monitor equipment malfunctions _____ c. Quality assurance calibration _____ d. Other known causes _____ e. Unknown causes _____ 2. Total CMS Downtime _____ 3. [Total CMS Downtime] x (100) / [Total source operating time] % ²

¹ For opacity, record all times in minutes. For gases, record all times in hours.
² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 40 C.F.R. 60.7(c) shall be submitted.

Note: On a separate page, describe any changes since last quarter in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

Name: _____

Signature: _____ Date: _____

Title: _____